



PART IV.—EDUCATION, SCIENCE, AND ART (C).

Administration Report of the Director of Medical and Sanitary Services for 1930.

(*Dr. R. BRIERCLIFFE.*)

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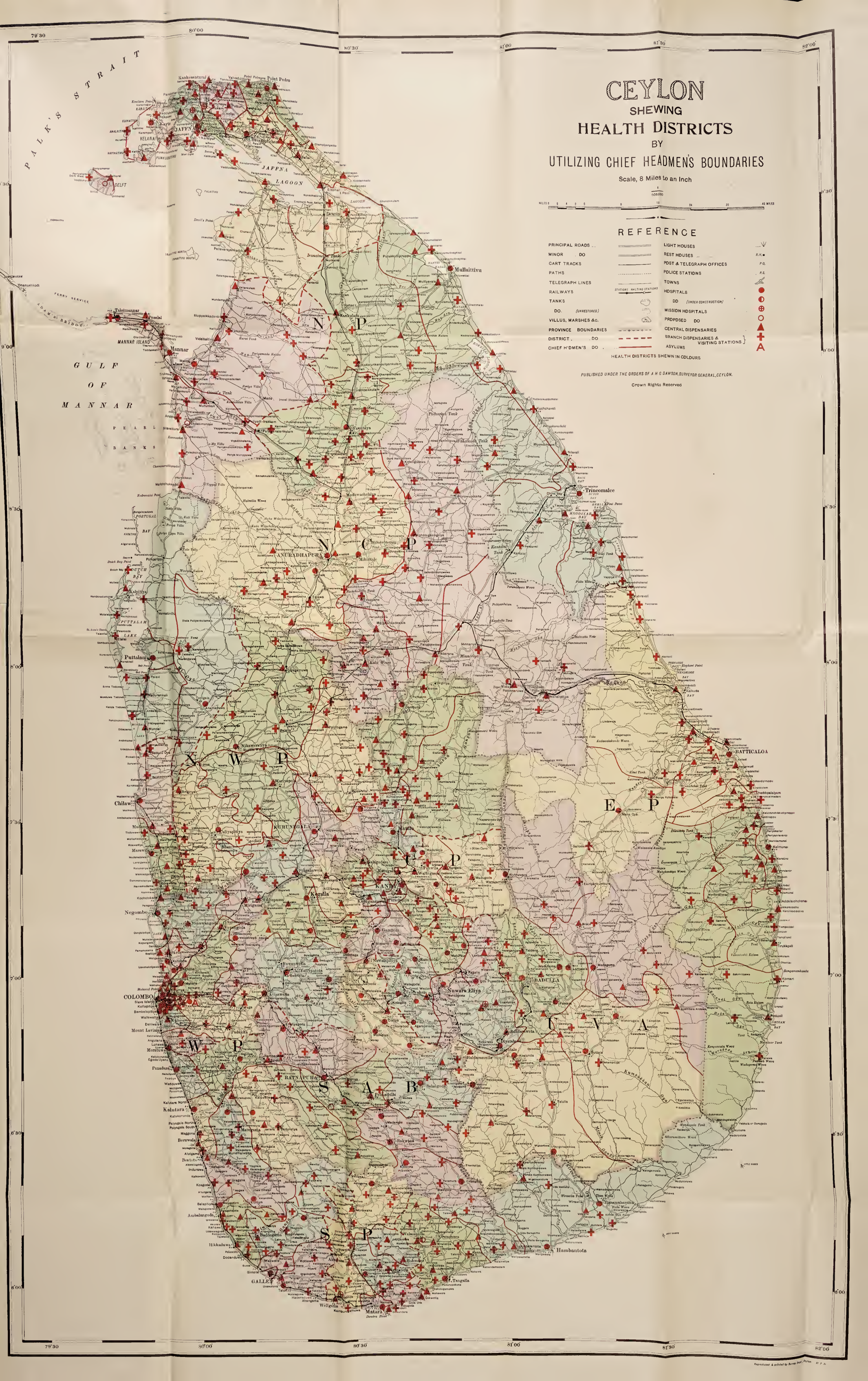
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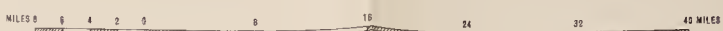


CEYLON

SHEWING
HEALTH DISTRICTS
BY

UTILIZING CHIEF HEADMEN'S BOUNDARIES

Scale, 8 Miles to an Inch



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- | | | | |
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| PRINCIPAL ROADS | ===== | LIGHT HOUSES | ⚓ |
| MINOR DO | ===== | REST HOUSES | ⚓ |
| CART TRACKS | ----- | POST & TELEGRAPH OFFICES | PT |
| PATHS | ----- | POLICE STATIONS | PS |
| TELEGRAPH LINES | ----- | TOWNS | ● |
| RAILWAYS | ----- | HOSPITALS | ⚓ |
| TANKS | ⊙ | DD (UNDER CONSTRUCTION) | ⊙ |
| DO. (UNRESTORED) | ⊙ | MISSION HOSPITALS | ⚓ |
| VILLUS, MARSHES &C. | ⊙ | PROPOSED DO | ⊙ |
| PROVINCE BOUNDARIES | ----- | CENTRAL DISPENSARIES | ⚓ |
| DISTRICT DO | ----- | BRANCH DISPENSARIES & VISITING STATIONS | ⚓ |
| CHIEF H'DMEN'S DO | ----- | ASYLUMS | ⚓ |
- HEALTH DISTRICTS SHOWN IN COLOURS

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DEPARTMENT OF MEDICAL AND SANITARY SERVICES.

REPORT OF THE DIRECTOR OF MEDICAL AND SANITARY SERVICES FOR THE YEAR 1930.

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MAP.

Map of Ceylon showing Medical Institutions .. *Inserted loose facing page 3*

I.—ADMINISTRATION.

(a) (1) *Establishment (including vacancies) on December 31, 1930.*

Directorate.

- 1 Director of Medical and Sanitary Services.
- 1 Deputy Director of Medical and Sanitary Services.
- 1 Assistant Director of Medical Services.
- 1 Assistant Director of Sanitary Services.
- 1 Administrative Secretary.
- 2 Senior Medical Officers of Health.
- 1 Accountant.
- 1 Assistant Accountant.

Medical Side.

- 1 Medical Superintendent, General Hospital, Colombo.
- 1 Medical Superintendent, Lunatic Asylum, Angoda.
- 1 Medical Superintendent, Leper Asylum, Hendala.
- 1 Medical Superintendent, Civil Hospital, Kandy.
- 1 Medical Superintendent, Civil Hospital, Galle.
- 9 Provincial Surgeons.
- 1 Medical Officer in Charge, Anti-Tuberculosis Institute, Colombo.
- 1 Medical Officer in Charge, Lady Havelock and Lady Ridgeway Hospitals, Colombo.
- 1 Radiologist, General Hospital, Colombo.
- 1 Pathologist, General Hospital, Colombo.
- 1 Medical Officer in Charge, Dental Institute, Colombo.
- 61 Medical Officers in Grade I. of whom 1 is a woman.
- 229 Medical Officers in Grade II. of whom 8 are women (14 vacancies).

Sanitary Side.

- 3 Inspecting Medical Officers of Estates.
- 3 Assistants to Inspecting Medical Officers of Estates (Medical Officers in Grade II.).
- 27 Medical Officers of Health.
- 1 Superintendent, Ankylostomiasis Campaigns (Medical Officer, Grade I.).
- 8 Medical Officers, Ankylostomiasis Campaigns (Medical Officers, Grade II.).
- 1 Superintendent, Anti-Malaria Campaign.
- 5 Medical Officers, Anti-Malaria Campaign (Medical Officers, Grade II.).
- 5 School Medical Officers (3 in Grade I. of Medical Officers and 2 in Grade II.).
- 1 Superintendent of Health Education.
- 1 Medical Officer (a woman) for Maternity and Child Welfare Work.
- 5 Sanitary Engineers (including 3 Assistant Sanitary Engineers).
- 1 Sanitary Superintendent (vacant).
- 38 Sanitary Inspectors, Class I.
- 229 Sanitary Inspectors, Class II. (13 vacancies).
- 3 Draughtsmen (Sanitary Engineering Division).

Laboratory Staff.

- 1 Director of Bacteriological and Pasteur Institutes.
- 1 Bacteriologist and Officer in Charge, Vaccine Establishment.
- 1 Assistant Bacteriologist (Medical Officer, Grade II.).
- 31 Laboratory Assistants (2 vacancies).
- 1 Medical Entomologist.
- 14 Entomological Assistants.
- 9 Laboratory Attendants.

*Nursing Staff.**European—*

- 8 Matrons.
- 1 Assistant Matron.
- 33 Sisters (3 vacancies).

Religious (European)—

- 7 Mothers (1 vacancy).
- 128 Sisters (18 vacancies).

Ceylonese—

- 1 Relieving Staff Nurse (1 vacancy).
- 19 Public Health Nurses (13 vacancies).
- 80 Matrons (13 vacancies).
- 187 Nurses (23 vacancies).
- 135 Pupil Nurses.
- 98 Hospital and Health Unit Midwives.
- 26 Pupil Midwives.

Clerical Staff.

General Branch, Head Office—

- 1 Chief Clerk, Special Class.
- 2 Clerks, Class I.
- 35 Clerks in Classes II. and III. (5 vacancies).
- 1 Stenographer.
- 1 Telephone Clerk.

Financial Branch, Head Office—

- 41 Clerks in Classes II. and III. (3 vacancies).

Branch Offices—

- 73 Clerks in the various branch offices (1 vacancy).

Apothecaries.

- 20 Apothecaries in Special Class.
- 100 Apothecaries in Class I.
- 295 Apothecaries in Class II. (34 vacancies).
- 3 Acting Officers.

Vaccination.

- 9 Inspectors of Vaccination.
- 33 Male Vaccinators, Class I.
- 114 Male Vaccinators, Class II. (6 vacancies).
- 18 Female Vaccinators (1 vacancy).

Civil Medical Stores.

- 1 Superintendent and Chief Medical Storekeeper.
- 1 Assistant Superintendent.
- 1 Additional Storekeeper.
- 7 Overseers.

Opium Branch.

- 1 Opium Storekeeper.
- 12 Opium Clerks.
- 21 Opium Sellers (2 vacancies).

Miscellaneous.

- 3 Hospital Stewards in Special Class.
- 6 Hospital Stewards in Class I.
- 39 Hospital Stewards in Class II. (2 vacancies).
- 1 Sister, X-Ray and Electrical Branch.
- 2 X-Ray Assistants, General Hospital.
- 4 Hospital Stores Clerks.
- 7 Hospital Admitting Clerks (2 vacancies).
- 4 Bookbinders.
- 4 Telephone Operators.
- 2 Head Overseers (Sanitary Engineering Division and General Hospital).
- 1 Survey Overseer (Sanitary Engineering Division).
- 9 Hospital Overseers.
- 1 Agricultural Overseer, Lunatic Asylum.
- 2 Motor Ambulance Drivers.

Minor Employees.

Depôt Assistants and Cleaners	} about 3,700.
Laboratory Cleaners	
Packers	
Peons	
Overseers	
Dispensary Orderlies	
Caretakers	
Male Attendants	
Female Attendants	
Opium Store Servants	
Disinfecting Orderlies	
Tappal Coolies	
Itinerating Coolies	
Latrine Coolies	
Garden Coolies	
Burial Coolies	
Nurses' Ayahs	
Barbers, Dhobies, &c.	

(2) Promotions, Appointments, &c.

Dr. J. F. E. Bridger, Director of Medical and Sanitary Services, left Ceylon on April 15, 1930, preparatory to retirement, and Dr. V. VanLangenberg became Acting Director until July 7, when Dr. R. Briercliffe was appointed Director. Dr. R. G. Jayatileke was appointed Deputy Director with effect from November 16, 1930, *vice* Dr. V. VanLangenberg retired. Dr. L. A. Prins was appointed Assistant Director of Medical Services and Dr. J. B. F. Caldera, Inspecting Medical Officer, with effect from November 16, 1930. Dr. P. K. K. Naidu was appointed Superintendent, Mandapam Camp, with effect from April 1, 1930, *vice* Dr. H. J. de Saram retired. Dr. V. A. Goonetilleke was promoted to the post of Provincial Surgeon with effect from September 3, 1929, and Dr. W. E. de Silva to the post of Medical Superintendent, Kandy Hospital, with effect from October 23, 1929. Mr. G. M. Rennie, C.C.S., was appointed Administrative Secretary on his return from long leave on January 21, 1930, *vice* Mr. F. Leach, C.C.S. Dr. M. Jinadasa, Provincial Surgeon, retired with effect from December 1, 1930.

(3) Officers on Leave.

Forty-one Officers of the Department, exclusive of Nursing Staff, proceeded to Europe on long leave during the course of the year.

(4) Special Qualifications, &c.

The following Medical Officers obtained special qualifications during the year:—

1. Dr. C. F. Fernando obtained the degree of M.D. (Lond.) and was awarded the Gold Medal.
2. Dr. J. R. Blazé obtained the degree of M.D. (Lond.) and the diploma of M.R.C.P. (Lond.).
3. Dr. M. A. Paul obtained the degree of M.S. (Lond.).
4. Dr. V. A. Goonetilleke obtained the degree of M.D. (Durham).
5. Dr. E. M. Wijerama obtained the degrees of M.B., B.S. (Lond.), and D.T.M. and H. (Lond.).
6. Dr. N. Sinnadurai obtained the degrees of M.B., B.S. (Lond.).
7. Dr. V. Kathirgamatamby obtained the diplomas of F.R.C.S. (Eng.) and D.L.O. (Lond.).
8. Dr. W. C. Wickramasinghe obtained the diploma of F.R.C.S. (Edin.).
9. Dr. J. Dadabhoy obtained the diploma of D.O.M.S. (Eng.).

Three Medical Officers obtained the diploma of M.R.C.S. (Eng.) and L.R.C.P. (Lond.) and four the triple qualification of Edinburgh and Glasgow.

(b) List of Ordinances affecting Public Health enacted during the Year.

Ordinance No. 17 of 1929—an Ordinance to amend and consolidate the law relating to Poisons, Opium, and Dangerous Drugs—was passed by the Legislative Council and assented to by His Excellency the Governor on October 5, 1929. The Ordinance has not been proclaimed yet.

The draft Ordinance to amend the Ordinance for the better Preservation of Public Health and Suppression of Nuisances in Rural Areas is still under the consideration of Government. This Ordinance, when introduced, will enable the Department to enforce the Nuisance Ordinance in rural areas with legal authority which has hitherto been absent.

The Ordinance for the Prevention of the Breeding and Harboursing of Mosquitoes passed its second reading early in 1929 and was referred to a Select Committee of the Legislative Council. The Select Committee's report was submitted in due course and was considered by the Governor in Executive Council, and it was decided to ask the Legislative Council to allow its re-committal to the Select Committee for further consideration of the question of the extent of the liability of an owner for Anti-Malaria measures on his premises. The Ordinance was accordingly re-committed to the Select Committee, with whom it is at present.

*(c) Financial.*Actual Revenue and Expenditure for the Financial Year ending
September 30, 1930.

REVENUE.		Rs.	c.
1.	Hospital and dispensary receipts	397,831	58
2.	Sales of drugs, &c.	10,595	87
3.	Sales of drugs, &c., under the Medical Wants Ordinance ..	16,342	69
4.	Charges for maintenance under the Medical Wants Ordinance	133,632	29
5.	Opium sales	290,009	93
6.	Export duties under the Medical Wants Ordinance ..	1,715,756	19
Total ..		2,564,168	55

EXPENDITURE.		Rs.	c.
	Note.		
1.	Personal Emoluments	5,725,249	40
2.	Hospital diets	1,917,882	72
3.	Equipment and contingencies including uniforms to Nurses, Sanitary Inspectors, &c. ..	559,688	36
4.	Special equipment for hospitals and dispensaries ..	38,561	22
5.	Medicines and instruments	1,026,711	51
6.	Travelling	622,624	37
7.	Transport of stores, &c.	70,370	41
8.	Rents	86,941	65
9.	Grants	41,757	70
10.	Epidemics	23,390	37
11.	Rebates payable under the Medical Wants Ordinance ..	240,000	0
12.	Purchase of opium and general expenses ..	177,022	79
13.	Earth filling, drainage, &c., in connection with anti- malaria measures	3,005	14
14.	Payment to Municipal Council, Colombo, towards destruction of rats	18,441	12
15.	Electric current	92,936	25
16.	Incidental expenses	11,101	77
17.	Public Health Scholarships	608	89
18.	Cultivation of land attached to the Lunatic Asylum, Angoda	4,950	59
19.	Contribution to the Malaria Control Scheme conducted by the Ceylon Estates Proprietary Association ..	5,000	0
20.	Expenses in connection with the training of Ceylonese Nurses in England	2,053	33
21.	Purchase of a skiff with outboard motor ..	981	42
Total ..		10,669,279	1

The actual expenditure for the last six years has been :—

				Rs.	c.
1924-25	..	..	..	.. 7,798,824	24
1925-26	..	..	..	.. 8,598,923	3
1926-27	..	..	..	.. 9,104,455	35
1927-28	..	..	..	..10,211,104	32
1928-29	..	..	..	..10,216,467	18
1929-30	..	..	..	..10,669,279	1

These figures do not include the cost of new buildings and additions and improvements to, and maintenance of, existing ones.

The revenue of the Island during the financial year ending September 30, 1930, was Rs. 110,926,863.47.

II.—PUBLIC HEALTH.

A.—GENERAL REMARKS.

In the Western Province there were outbreaks of dysentery and typhoid following the extensive and serious floods of May. There was considerable overcrowding of many of the hospitals as the result of the very large number of dysentery patients, which continued until August. An outbreak of malaria as the result of the floods was anticipated and precautionary measures were taken and arrangements made for the distribution of quinine. The amount of malaria, however, was not appreciably greater than in 1929.

In the Central Province malaria occurred as usual in the dry zones after the rains of the north-east monsoon. Matale and Dambulla were the districts most affected. An epidemic occurred in the Teldeniya district in November which necessitated detailing a Medical Officer specially to deal with it.

In the Southern Province malaria was rampant in the Hambantota and Matara Districts during the first quarter of the year. Otherwise the health of the Province was good and the second half of the year found most of the hospitals with many empty beds. Except in the towns of Galle and Matara there was little enteric fever and there was much less dysentery than in 1929.

Throughout the whole Northern Province there was a severe outbreak of malaria during the first quarter, after the heavy rainfall of the north-east monsoon. During the fourth quarter there were much dysentery and diarrhoea and throughout the year typhoid was endemic and nearly twice as prevalent as in 1929.

In the North-Western Province malaria prevailed to its usual extent during the early months of the year following the north-east rains. At Kurunegala and Puttalam intensive measures of control were carried out by the Anti-Malaria Campaign.

In the Province of Uva malaria continued to be a great scourge but no severe epidemic occurred although the number of patients treated was slightly in excess of the number for 1929.

In the Province of Sabaragamuwa the general health was satisfactory except for the severe outbreak of malaria in Atakalan, Kolonna, Kadawata, and Meda korales, which started in November, 1929, and continued until June, 1930. A number of Medical Officers and Apothecaries were specially detailed to tour the villages and treat patients. In some villages whole families were prostrated with the disease and Government made a free distribution of rice to deserving cases.

In the Eastern Province while there was no epidemic outbreak of serious infectious disease, malaria was very prevalent during the first three months and in the third and driest quarter of the year dysentery broke out in Batticaloa, Kattankudy, Valaichchenai, and Mantivu.

The North-Central Province, although a malarious area, suffered less from the disease than usual. There was, however, a sharp rise in the number of cases in December.

1.—General Diseases.

The most prevalent general diseases of hospital in-patients have been rheumatism, intestinal disorders (diarrhoea and enteritis), bronchitis, and pneumonia. Malignant growths occur to some extent and year by year the number of patients who seek hospital treatment for cancer is increasing.

The following table shows the numbers of cases and deaths of these diseases dealt with in hospitals throughout the Island during the years 1926 to 1930:—

	1926.	1927.	1928.	1929.	1930.
Rheumatism—					
Cases ..	.. 4,398	.. 4,365	.. 5,043	.. 5,218	.. 4,996
Deaths ..	.. 20	.. 20	.. 22	.. 38	.. 42
Intestinal disorders—					
Cases ..	.. 4,991	.. 4,764	.. 4,664	.. 5,724	.. 4,790
Deaths ..	.. 1,149	.. 1,015	.. 972	.. 1,022	.. 861
Bronchitis—					
Cases ..	.. 4,189	.. 4,615	.. 5,220	.. 5,043	.. 4,552
Deaths ..	.. 192	.. 175	.. 190	.. 183	.. 214
Pneumonia—					
Cases ..	.. 5,650	.. 6,168	.. 6,509	.. 6,239	.. 5,592
Deaths ..	.. 2,011	.. 1,900	.. 2,548	.. 2,288	.. 2,069
Malignant growths—					
Cases ..	.. 407	.. 478	.. 687	.. 741	.. 819
Deaths ..	.. 106	.. 89	.. 87	.. 126	.. 107

The total number of deaths from “-Cancer or Malignant Diseases ” reported by the Registrar-General in respect of the whole Island was 460 during the year 1930, as compared with 451 in 1929, 551 in 1928, 540 in 1927, and 509 in 1926.

Most of the operable cases of cancer resort to the General Hospital, Colombo, for treatment; of a total of 819 cases of cancer dealt with in all the hospitals, 524 were treated in the General Hospital.

On account of the prevalence of betel chewing the site of the disease in the majority of cases was in the region of the buccal cavity, usually the cheek.

The analysis of cases treated is given on page 11.

2.—Communicable Diseases.*(a) Mosquito or Insect-borne.*

(1) *Malaria*.—The widespread outbreak of malaria which started in November, 1929, reached its height in February, 1930, and has been one of the most extensive and severe outbreaks of recent years. The Southern, Northern, and Eastern Provinces were particularly affected by it. During the latter half of the year malaria was generally less prevalent than usual. There were 36,901 cases admitted as in-patients to hospitals and 1,722,210 cases treated at dispensaries and out-patient departments of hospitals. Benign tertian malaria was the common form of the disease. The mortality among the hospital admissions was very low, as it was last year. There were 613 deaths from the disease in its acute stages—usually the cerebral type of malignant tertian malaria—and 238 deaths were attributed to malarial cachexia.

The following table compares the malaria figures for 1930 with those for 1926, 1927, 1928, and 1929:—

	1926.	1927.	1928.	1929.	1930.
Number of cases treated at dispensaries ..	1,061,457..	865,594..	1,542,029..	1,629,586..	1,722,210
Cases admitted to hospitals..	29,334..	25,146..	44,356..	37,591..	36,901
Total number of deaths in hospitals ..	632..	488..	882..	839..	841
Total number of deaths registered for the Island ..	1,331..	1,331..	2,239..	2,326..	2,387

Cancer Returns of In-patients in Hospitals for 1930.

SINHALESE.

Age.	Sex.	Cheek.		Tongue.		Penis.		Breast.		Uterus.		Palate, Jaw, and Floor of Mouth.		Skin and Extremities.		Stomach.		Caecum.		Rectum.		Liver.		Intestines.		Ovary.		Oeso-phagus.		Lymph Glands.		Other Sites.		Sites not specified on Notes.		Total.		
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	
20-30	Male	4	—	—	—	3	1	1	—	2	—	—	—	8	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	1	
	Female	2	1	—	—	—	—	3	—	8	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	6	
31-40	Male	25	3	2	—	20	4	—	—	—	—	3	—	4	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69	7	
	Female	6	—	3	—	—	—	12	—	34	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63	5		
41-50	Male	43	4	8	1	14	—	1	1	—	—	4	—	4	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92	10	
	Female	15	2	6	—	—	—	18	2	37	6	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	98	14	
51-60	Male	34	2	11	1	11	—	1	—	—	—	4	—	5	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	81	5	
	Female	10	1	1	—	—	—	3	1	32	4	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59	8	
61 and upwards	Male	20	1	10	1	11	2	1	—	1	—	4	—	3	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	57	7
	Female	5	1	1	—	—	—	—	—	10	—	—	2	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	2	
Total		164	15	42	3	59	7	40	5	124	15	21	1	39	1	12	1	1	—	18	2	4	1	2	1	8	1	3	—	12	3	48	7	4	1	600	65	

TAMILS.

20-30	Male	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	1
	Female	5	1	—	—	—	—	—	—	4	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	—	
31-40	Male	19	3	1	—	—	—	—	—	14	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	—	
	Female	8	1	1	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—		
41-50	Male	16	6	1	—	2	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	
	Female	7	4	—	—	—	—	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
51-60	Male	12	1	1	—	—	—	—	—	5	—	3	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	—	
	Female	1	1	—	—	—	—	3	—	—	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	—		
61 and upwards	Male	6	1	1	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	
	Female	2	—	—	—	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—		
Total		79	16	8	1	6	1	10	2	31	5	11	—	3	—	4	2	—	—	2	1	3	1	—	—	2	1	—	—	2	1	—	—	177	32		

OTHER RACES.

20-30	Male
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C = cases.

D = deaths.

The following table shows the hospital admissions on account of malaria in the different provinces for the past three years:—

	1928.		1929.		1930.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
General Hospital, Colombo	4,462..	129..	3,268..	154..	2,742..	151
Western Province	5,088..	97..	2,806..	53..	3,634..	72
Central Province	6,309..	125..	5,496..	97..	5,541..	86
Northern Province	2,552..	39..	3,352..	60..	3,210..	53
Eastern Province	1,240..	17..	1,589..	19..	1,243..	20
Southern Province	1,790..	31..	2,807..	49..	3,088..	85
North-Western Province	5,486..	198..	4,044..	149..	3,895..	157
North-Central Province	2,095..	39..	2,502..	49..	1,851..	33
Province of Uva	5,057..	82..	4,190..	68..	4,391..	54
Province of Sabaragamuwa	10,157..	121..	7,433..	132..	7,236..	126
Lunatic Asylum	120..	4..	104..	9..	70..	4
	44,356	882	37,591	839	36,901	841

Many cases of malaria in villages remote from hospitals and dispensaries were treated by Itinerating Medical Officers of the Parangi Campaign whose scope of work was extended in 1927 when they were provided with drugs, &c., for the treatment of prevalent diseases.

14,725 lb. and 2,388,775 tablets of quinine, which cost Rs. 265,460, were issued free through various agencies for curative and preventive purposes.

An account of the Anti-Malaria Campaigns and of the entomological investigations appears under Section III. of this report.

(2) *Dengue*.—There was no epidemic of dengue during 1930. 43 cases were admitted to hospital (of which 36 were in the General Hospital) and 29 cases were treated as out-patients during the year, as against 84 and 73 the previous year.

(3) *Filariasis* is by no means uncommon in parts of the Southern and Eastern Provinces where cases of elephantiasis, usually of the leg, occur and are locally known as “Galle leg.”

(b) *Infectious Diseases.*

(1) *Enteric*.—The following table shows the number of cases and deaths for the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases	1,352	1,488	1,687	2,010	2,478
Hospital deaths	361	304	368	472	601
Total number of deaths for the Island	544	510	577	736	843

The actual prevalence of the disease cannot be judged from hospital admissions since many cases resort to ayurvedic treatment and the majority of cases probably are not notified. The number of registered deaths does not indicate the actual mortality from this disease, as some deaths from enteric are undoubtedly included amongst those reported as due to pyrexia. There were 19,106 deaths due to pyrexia in 1930, as against 18,744 in 1929.

There was a severe epidemic in the Colombo Municipality and in the Colombo District following the floods in May, 1930, and the Western Province contributed nearly one-third of the total cases treated in hospitals.

(2) *Smallpox*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Cases	65	27	18	7	41
Deaths	4	5	1	1	6

Of the total cases 3 were from steamers, 1 was a recent arrival from India, 24 were from the Lunatic Asylum, Angoda, 7 from Wellampitiya and Peliyagoda in the Colombo District, and 6 from Maymolly estate in Pussellawa district. Ten cases were of the confluent type, the rest being discrete and modified types.

(3) *Diphtheria*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	20 ..	36 ..	40 ..	35 ..	34
Hospital deaths ..	6 ..	9 ..	13 ..	11 ..	9
Total number of deaths for the Island ..	13 ..	11 ..	20 ..	17 ..	19

Of the 34 cases treated, 16 were at the Infectious Diseases Hospital, Angoda, 8 at the Lady Havelock Hospital, 9 in Kandy Hospital, and 1 in Undugoda Hospital. Most of the cases were amongst children.

(4) *Influenza*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Number of cases treated at dispensaries ..	44,179 ..	55,589 ..	79,785 ..	107,742 ..	114,056
Hospital cases ..	5,345 ..	6,147 ..	7,237 ..	4,424 ..	4,374
Hospital deaths ..	96 ..	112 ..	101 ..	94 ..	96
Total number of deaths for the Island ..	1,090 ..	1,756 ..	1,958 ..	1,918 ..	2,074

(5) *Cholera*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	56 ..	11 ..	5 ..	19 ..	—
Hospital deaths ..	57 ..	6 ..	4 ..	8 ..	—
Total number of deaths registered for the Island ..	54 ..	3 ..	3 ..	19 ..	—

It is noteworthy that not a single case of cholera occurred during the year although the disease was prevalent in parts of Southern India.

(6) *Dysentery*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	5,004 ..	5,202 ..	6,190 ..	7,527 ..	7,242
Hospital deaths ..	862 ..	792 ..	1,034 ..	1,114 ..	1,052
Total number of deaths registered for the Island ..	3,514 ..	3,144 ..	3,446 ..	4,258 ..	3,616

4,478 cases or 61.8 per cent. of the total number of cases were stated to be amoebic and 1,429 cases or 19.7 per cent. bacillary. The mortality rates were 14.1 per cent. and 15.6 per cent. respectively. These figures, however, are not of great value since the distinction was often made on clinical grounds. Only a small percentage of the cases were submitted to complete laboratory investigation and among them the bacillary type greatly preponderated (*vide* Section IX.).

The following provinces contributed the majority of the hospital cases:—

Western Province ..	1,848 cases with 224 deaths
Province of Sabaragamuwa ..	999 „ „ 213 „
Northern Province ..	995 „ „ 55 „
Central Province ..	869 „ „ 132 „

40,365 out-patients were treated for this disease during the year, as against 36,994 during 1929. The distribution of out-patient cases is as follows:—

	1929.	1930.
Western Province ..	6,201 ..	13,706
Central Province ..	4,363 ..	3,996
Southern Province ..	3,621 ..	2,843
Eastern Province ..	4,717 ..	4,232
North-Western Province ..	3,356 ..	2,633
North-Central Province ..	4,072 ..	2,872
Province of Uva ..	1,866 ..	1,247
Province of Sabaragamuwa ..	2,883 ..	2,881
Northern Province ..	5,915 ..	6,015

These figures show that this disease was prevalent, as in the previous year, in sporadic form in all the provinces. The Western Province shows a large increase which was due to the floods in May, 1930.

It is interesting to note that of the total deaths registered in the whole Island from dysentery the percentage among Indian immigrant labourers on estates has decreased considerably in recent years as the following table shows:—

	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Total number of deaths registered for the Island ..	4,080..	3,723..	3,514..	3,144..	3,446..	4,258..	3,616
Total number of deaths among Indian immigrant labourers ..	2,402..	2,470..	2,132..	1,926..	1,723..	1,384..	1,028
Indian immigrant labourers to the total number of deaths in the Island ..	58.8..	66.3..	60.6..	61.2..	50.0..	32.5..	28.4

These figures appear to show that the policy of providing protected supplies of good water on estates and the proper removal of latrine deposits are achieving satisfactory results.

(7) *Leprosy*.—During the year 1,083 cases with 98 deaths, as against 1,198 cases with 86 deaths in 1929, were treated at the Government hospitals including the two Asylums which are maintained in the Island for the segregation of lepers under the Leper Ordinance, No. 4 of 1901. A report on these two Asylums is given in Section VII.

(8) *Parangi (Yaws)*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	4,386 ..	3,482 ..	2,667 ..	2,111 ..	1,640
Hospital deaths ..	14 ..	11 ..	2 ..	4 ..	5
Number of cases treated at dispensaries ..	39,782 ..	36,131 ..	34,171 ..	24,841 ..	23,684
Total number of deaths for the Island ..	12 ..	12 ..	9 ..	10 ..	10

During the year under review 19,426 injections were given to 8,985 patients, as against 24,855 injections and 15,670 patients in 1929. Most of the patients attended a second and a third time for injections, but some, perhaps satisfied and contented with the immediate relief effected by the first injections, did not attend for the subsequent injections essential to obtain a cure.

The continued and great decrease in the number of cases treated testifies to the success of the work of the thirteen Itinerating Medical Officers in the various provinces who have dealt with this disease, which is now well under control everywhere and has almost disappeared in certain provinces.

(9) *Plague*.—The following table shows the number of cases and deaths in the past five years:—

	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	16 ..	117 ..	67 ..	41 ..	23
Hospital deaths ..	15 ..	106 ..	60 ..	29 ..	19

Of the 23 hospital cases during the year, 20 were from the Colombo town, 1 from the Western Province, and 2 from the Northern Province.

There have been in all (including the cases treated in hospitals) 46 cases during the year, of which 42 proved fatal giving a fatality rate of 91.3 per cent.

The distribution of the cases according to the locality is as follows:—

Locality.	Cases.	Deaths.
Colombo (Municipality) ..	40	38
Dehiwala ..	1	1
Wadduwa ..	1	—
Kurunegala ..	1	1
Madawachehi ..	1	1
Talaimannar ..	2	1
	<hr/> 46	<hr/> 42

(10) *Tuberculosis of the Lungs*.—The following table shows a comparison between the figures for 1930 and the figures for the previous five years:—

	1925.	1926.	1927.	1928.	1929.	1930.
Hospital cases ..	4,155 ..	4,363 ..	4,247 ..	4,120 ..	4,239 ..	3,985
Hospital deaths ..	1,000 ..	1,074 ..	1,027 ..	1,110 ..	648 ..	1,056
Total number of deaths registered for the Island ..	3,241 ..	3,309 ..	3,353 ..	3,380 ..	3,532 ..	3,318

Three special institutions—the Anti-Tuberculosis Institute, Colombo (outdoor), the Kandana Sanatorium, Western Province, for early cases, and the Ragama Tuberculosis Hospital, Western Province, for advanced and chronic cases—are maintained to deal with this disease. A fourth institution, the Kankesanturai Sanatorium, in the north of the Island, where the climate is dry and mild, of 44 beds, has been completed but is not yet opened. A large number of cases are also treated in the Tuberculosis Wards of the General Hospital, Colombo. The number of cases treated at the outdoor dispensaries in the Island was 2,328.

The following tables show the total cases and deaths from the communicable diseases notified for the whole Island inclusive of the three municipal towns, and their distribution according to months and provinces:—

Diseases.	Cases.	Deaths.	Fatality Rate.	Fatality Rate for 1929.
Chickenpox ..	5,061 ..	2 ..	0.04 ..	0.07
Diphtheria ..	52 ..	12 ..	23.1 ..	20.83
Dysentery ..	3,814 ..	616 ..	16.1 ..	12.86
Enteric Fever ..	2,535 ..	571 ..	22.5 ..	19.03
Measles ..	741 ..	4 ..	0.5 ..	0.27
Mumps ..	542 ..	— ..	— ..	—
Pulmonary Tuberculosis ..	2,102 ..	820 ..	39.0 ..	27.72
Whooping Cough ..	309 ..	4 ..	1.3 ..	—
Cholera ..	— ..	— ..	— ..	42.31
Plague ..	46 ..	42 ..	91.3 ..	96.87
Smallpox ..	41 ..	6 ..	14.6 ..	—

Table Showing the Distribution of the Communicable Diseases Notified by Months.

Months.	Chicken-pox.	Diphtheria.	Dysentery.	Enteric.	Measles.	Mumps.	Pulmonary Tuberculosis.	Whooping Cough.	Cholera.	Plague.	Small-pox.
January ..	578 ..	5 ..	574 ..	229 ..	78 ..	41 ..	156 ..	9 ..	— ..	3 ..	1
February ..	624 ..	4 ..	330 ..	182 ..	100 ..	43 ..	130 ..	9 ..	— ..	3 ..	25
March ..	652 ..	5 ..	252 ..	174 ..	100 ..	67 ..	154 ..	29 ..	— ..	5 ..	3
April ..	553 ..	4 ..	127 ..	144 ..	122 ..	22 ..	178 ..	4 ..	— ..	2 ..	5
May ..	389 ..	7 ..	88 ..	242 ..	62 ..	30 ..	222 ..	11 ..	— ..	6 ..	6
June ..	271 ..	2 ..	201 ..	239 ..	35 ..	66 ..	165 ..	8 ..	— ..	1 ..	1
July ..	257 ..	7 ..	385 ..	282 ..	110 ..	93 ..	196 ..	10 ..	— ..	3 ..	—
August ..	280 ..	4 ..	276 ..	302 ..	25 ..	25 ..	186 ..	12 ..	— ..	4 ..	—
September ..	400 ..	5 ..	273 ..	218 ..	26 ..	28 ..	184 ..	51 ..	— ..	1 ..	—
October ..	369 ..	3 ..	433 ..	187 ..	50 ..	39 ..	204 ..	69 ..	— ..	2 ..	—
November ..	394 ..	2 ..	456 ..	184 ..	23 ..	37 ..	174 ..	97 ..	— ..	4 ..	—
December ..	294 ..	4 ..	419 ..	152 ..	10 ..	51 ..	153 ..	— ..	— ..	12 ..	—

Table Showing the Distribution of the Communicable Diseases Notified by Provinces.

Province.	Chicken-pox.	Diphtheria.	Dysentery.	Enteric.	Measles.	Mumps.	Pulmonary Tuberculosis.	Whooping Cough.	Cholera.	Plague.	Small-pox.
Western ..	2,407 ..	42 ..	2,298 ..	1,460 ..	303 ..	134 ..	1,365 ..	185 ..	— ..	42 ..	35
Central ..	1,083 ..	4 ..	181 ..	166 ..	134 ..	176 ..	161 ..	59 ..	— ..	— ..	6
Southern ..	705 ..	1 ..	678 ..	656 ..	27 ..	86 ..	283 ..	4 ..	— ..	— ..	—
Eastern ..	6 ..	— ..	41 ..	12 ..	18 ..	1 ..	5 ..	37 ..	— ..	— ..	—
Northern ..	61 ..	1 ..	76 ..	50 ..	13 ..	32 ..	83 ..	— ..	— ..	3 ..	—
North-Central ..	1 ..	— ..	10 ..	4 ..	— ..	— ..	— ..	2 ..	— ..	— ..	—
North-Western ..	185 ..	1 ..	118 ..	20 ..	198 ..	98 ..	100 ..	19 ..	— ..	1 ..	—
Sabaragamuwa ..	560 ..	2 ..	408 ..	139 ..	37 ..	1 ..	88 ..	3 ..	— ..	— ..	—
Uva ..	53 ..	1 ..	4 ..	28 ..	11 ..	14 ..	17 ..	— ..	— ..	— ..	—

(c) *Helminthic Diseases.*

Ankylostomiasis.—The following table shows a comparison of the 1930 figures with the figures for the previous five years:—

	1925.	1926.	1927.	1928.	1929.	1930.
Number of cases at dispensaries	147,528 ..	152,195 ..	170,818 ..	177,372 ..	178,041 ..	171,375
Cases admitted to hospitals ..	12,618 ..	13,040 ..	12,600 ..	12,921 ..	12,129 ..	10,288
Total number of deaths in hospitals ..	923 ..	897 ..	789 ..	941 ..	849 ..	857
Total number of deaths registered for the Island ..	2,119 ..	2,121 ..	1,943 ..	2,161 ..	2,172 ..	2,330

A reference to the account of the Ankylostomiasis Campaign, given in Section III. of this report, will show that the Campaign Officers have covered the greater portion of the Island, so far as the treatment of school children and estate labourers is concerned. The treatment of villagers is only partly shown in the dispensary figures given above, since, in addition to the patients who are suffering from and are treated for ankylostomiasis and nothing else and whose number is recorded above, a much larger number of patients suffering from other diseases are given routine treatment for ankylostomiasis at the dispensaries, as part of the campaign. Their numbers are shown in Section III. In some districts treatment was afforded to villagers at their own doors by the Itinerating Medical Officers.

B.—VITAL STATISTICS.

The following table summarises the more important vital statistics for the Island since 1871:—

	Average Annual Estimated Population (Mid-year Estimates for 1921-1930).	Average Annual Number of Births registered (Actual Numbers for 1921-1930).	Average Annual Number of Deaths registered (Actual Numbers for 1921-1930).	Excess of Registered Births over Deaths.	Excess of Immigrants over Emigrants.	Average Annual Birth Rate per 1,000 (Annual Rates for 1921-1930).	Average Annual Death Rate per 1,000 (Annual Rates for 1921-1930).	Average Annual Infant Mortality, i.e., Deaths of Children under 1 Year of Age per 1,000 Births (Annual Rates for 1921-1930).
1871-1880 ..	2,589,283 ..	70,815 ..	58,835 ..	11,980 ..	20,040 ..	27.3 ..	22.7 ..	—
1881-1890 ..	2,852,557 ..	83,663 ..	69,237 ..	4,426 ..	14,426 ..	29.3 ..	24.2 ..	158
1891-1900 ..	3,247,156 ..	112,204 ..	89,663 ..	22,541 ..	36,427 ..	34.5 ..	27.6 ..	168
1901-1910 ..	3,828,290 ..	145,961 ..	110,347 ..	35,614 ..	25,897 ..	38.1 ..	28.8 ..	180
1911-1920 ..	4,381,429 ..	164,806 ..	132,865 ..	31,941 ..	39,421 ..	37.6 ..	30.3 ..	195
1921 ..	4,505,756 ..	183,917 ..	140,749 ..	43,168 ..	1,984 ..	40.8 ..	31.2 ..	192
1922 ..	4,561,474 ..	179,856 ..	126,820 ..	53,036 ..	28,832 ..	39.4 ..	27.8 ..	188
1923 ..	4,643,761 ..	181,437 ..	141,891 ..	39,546 ..	42,652 ..	39.1 ..	30.6 ..	212
1924 ..	4,791,099 ..	178,867 ..	122,958 ..	55,909 ..	102,420 ..	37.3 ..	25.7 ..	186
1925 ..	4,926,607 ..	193,261 ..	117,543 ..	75,718 ..	72,112 ..	39.2 ..	23.9 ..	172
1926 ..	5,047,632 ..	206,888 ..	124,884 ..	82,004 ..	33,485 ..	41.0 ..	24.7 ..	174
1927 ..	5,203,238 ..	205,469 ..	113,003 ..	92,466 ..	71,339 ..	39.5 ..	21.7 ..	160
1928 ..	5,334,370 ..	213,308 ..	132,334 ..	80,974 ..	52,092 ..	40.0 ..	24.8 ..	177
1929 ..	5,430,000 ..	198,005 ..	135,274 ..	62,731 ..	6,010* ..	36.5 ..	24.9 ..	187
1930 ..	5,479,500 ..	205,107 ..	133,709 ..	71,398 ..	7,306* ..	37.4 ..	24.4 ..	175

* Excess of emigrants over immigrants.

The following return gives the statistics of population (estimated) for the Island for the year 1930:—

	Europeans.	Ceylonese including other Races than European and Indian Immigrants.	Indian Immigrants on Scheduled Estates.	Total.
Number of inhabitants on December 31, 1929	8,873* ..	4,738,531 ..	731,177 ..	5,478,581
Number of births during the year 1930 ..	164 ..	180,130 ..	24,813 ..	205,107
Number of deaths during the year 1930 ..	68 ..	117,295 ..	16,346 ..	133,709
Number of immigrants during the year 1930	131,730	..	91,422 ..	223,152
Number of emigrants during the year 1930	164,272	..	98,728 ..	263,000
Number of inhabitants on December 31, 1930	8,969* ..	4,767,181 ..	733,981 ..	5,510,131
Increase of population ..	96 ..	28,650 ..	2,804 ..	31,550

* In the estimation of the European population for 1930 emigration figures have not been taken into account.

The following are the vital statistics by communities for the Island for the year 1930, compared with those for 1928 and 1929:—

	1928.		1929.		1930.
I.—Ceylonese population (<i>i.e.</i> , the total population of the Island, less the European population and the Indian immigrant population on estates):—					
Estimated population on December 31	4,695,580	..	4,738,531	..	4,767,181
Total births	183,377	..	172,796	..	180,130
Birth rate per thousand ..	40.9	..	36.8	..	38.1
Total deaths	112,426	..	116,819	..	117,295
Death rate per thousand ..	24.4	..	24.9	..	24.8
Infant mortality (rate per thousand births registered)	173	..	183	..	172
II.—European population (including officials):—					
Estimated population on December 31	8,801	..	8,873	..	8,969
Total births	167	..	147	..	164
Birth rate per thousand ..	19.1	..	16.6	..	18.4
Total deaths	88	..	75	..	68
Death rate per thousand ..	10.1	..	8.5	..	7.6
Infant mortality (rate per thousand births registered)	12	..	14	..	18
III.—Indian immigrant population on estates:—					
Estimated population on December 31	717,480	..	731,177	..	733,981
Total births	24,767	..	25,064	..	24,813
Birth rate per thousand ..	34.5	..	34.3	..	33.5
Total deaths	19,823	..	18,381	..	16,346
Death rate per thousand ..	27.6	..	25.1	..	22.1
Infant mortality (rate per thousand births registered)	211	..	214	..	194
IV.—Total number of infant deaths under one year and infantile mortality rate:—					
	Total Deaths.		Mortality Rate per 1,000 Births registered.		
(a) for the whole Island ..	35,877	..	175		
(b) in the 35 principal towns ..	4,264	..	183		
(c) in the rural areas ..	31,613	..	174		

The registration of births and deaths is compulsory throughout the Island, but the registration of the causes of deaths cannot be totally relied on as the majority of the registering officers are not medical men. The Registrar-General supplies figures concerning the vital statistics of the 35 principal towns in Ceylon and these figures may be considered more reliable as regards the causes of death since the larger portion of them is certified to by Registered Medical Practitioners.

From the tables given above, it will be noted that the death rate in 1930 was rather less than in 1929 among each section of the population. For the first time the death rate among the Indian labourers was less than the rate among the Ceylonese population. While the infantile mortality rates among the Ceylonese and Indian populations are still high, the decline, as compared with 1929, is satisfactory, viz.. 172 in 1930, as compared with 183 in 1929 for the Ceylonese population, and among the Indian immigrant labourers 194 in 1930—the lowest rate yet recorded—as compared with 214 in 1929. The rate among the European population was higher, 18 in 1930 as compared with 14 in 1929.

Causation of Deaths.—The following table shows the number of deaths registered amongst all classes (Ceylonese, European, and Indian immigrant populations) during the year 1928, 1929, and 1930 under the several classes of diseases:—

	1928.		1929.		1930.
I.—Epidemic, Endemic, and Infectious Diseases—					
(a) Epidemic diseases	8,550	..	9,629	..	9,234
(b) Septic diseases	95	..	150	..	155
(c) Tuberculous diseases	3,667	..	3,532	..	3,586
(d) Venereal diseases	235	..	174	..	239
II.—General Diseases—					
(a) Cancer or malignant diseases ..	551	..	451	..	460
(b) Other general diseases	10,950	..	11,794	..	11,438

	1928.	1929.	1930.
III.—Diseases of the nervous system and organs of the senses	18,762	19,776	18,580
IV.—Diseases of the circulatory system ..	1,220	1,346	1,331
V.—Diseases of the respiratory system ..	13,394	13,881	12,741
VI.—Diseases of the digestive system ..	16,863	17,515	17,293
VII.—Non-venereal diseases of the genito-urinary system ..	1,745	1,829	2,130
VIII.—The puerperal state ..	4,091	4,031	4,381
IX.—Diseases of the skin and cellular tissues ..	11,353	10,122	10,446
X.—Diseases of bones and organs of locomotion ..	18	15	19
XI.—Malformations ..	33	22	23
XII.—Diseases of early infancy ..	9,894	10,236	10,073
XIII.—Old age ..	5,599	5,952	6,390
XIV.—Affections produced by external causes ..	2,701	2,719	2,710
XV.—Ill-defined diseases (including pyrexia) ..	22,616	22,102	22,480

The more notable causes of deaths amongst all classes (Ceylonese, European, and Indian immigrant populations) were the following diseases:—

	1928.	1929.	1930.
(1) Dysentery ..	3,446	4,258	3,616
(2) Pulmonary tuberculosis ..	3,380	3,229	3,318
(3) Infantile convulsions ..	16,042	16,788	15,445
(4) Diarrhoea ..	8,831	9,662	9,428
(5) Pneumonia ..	8,846	8,979	7,963
(6) Ankylostomiasis ..	2,161	2,172	2,330
(7) Dropsy ..	1,952	2,048	2,101
(8) Anaemia ..	2,363	2,750	2,711
(9) Intestinal parasites ..	4,621	4,326	4,159
(10) Puerperal septicaemia ..	1,409	1,466	1,597
(11) Malaria ..	2,239	2,326	2,387
(12) Enteric fever ..	577	736	843
(13) Rickets ..	4,477	4,958	4,629
(14) Tetanus ..	324	320	338
(15) Rabies ..	76	62	58
(16) Cholera ..	3	19	—
(17) Influenza ..	1,958	1,918	2,074
(18) Leprosy ..	80	95	108
(19) Plague ..	60	71	38*
(20) Scarlet fever ..	—	—	—
(21) Anthrax ..	2	1	2
(22) Smallpox ..	4	2	6
(23) Diphtheria ..	20	17	19
(24) Parangi ..	9	10	10
(25) Pyrexia ..	18,954	18,744	19,106

* Actual number of deaths is 42—presumably 4 not reported.

The above figures show that pyrexia and infantile convulsions continue to be the two principal causes of death, followed by diarrhoea and pneumonia. Malaria has claimed 61 victims more than last year.

The following table shows the principal causes of deaths amongst Indian immigrant population on estates:—

	1928.	1929.	1930.
(1) Dysentery ..	1,723	1,384	1,028
(2) Debility ..	2,795	2,817	2,661
(3) Diarrhoea and enteritis ..	1,597	1,349	1,080
(4) Pneumonia ..	2,816	2,589	2,077
(5) Ankylostomiasis ..	1,299	1,237	1,186
(6) Infantile convulsions ..	1,601	1,538	1,166
(7) Dropsy ..	119	94	74
(8) Pulmonary tuberculosis ..	382	327	306
(9) Anaemia ..	42	63	45
(10) Other diseases ..	7,450	6,984	6,723

From the above figures it is evident that debility, pneumonia, ankylostomiasis, infantile convulsions, dysentery, and diarrhoea are the chief causes of death amongst Indian immigrant labourers.

III.—HYGIENE AND SANITATION.

A.—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE.

Since the appointment of a Medical Officer of Health to Batticaloa on June 8, 1930, the whole of the Island except the North-Central Province has been brought under the direct control of this branch of the Medical Service. As regards the

sparsely populated North-Central Province the only town in it is Anuradhapura, and malaria, the outstanding problem there, is being dealt with by the Anti-Malaria Campaign.

Sanitary Engineering Division.—The field of activities of the Sanitary Engineering Division was extended during the year, special attention being directed to the sanitation and water supplies of hospitals whilst an extension in the examination of water supplies for public bodies and in drainage projects was also undertaken. The Division, as now organized, has become an indispensable part of the department and mention of its various activities will be found on different pages of this report.

Health Units.—At the end of 1929 there were five Health Units. During 1930 two more units were established; one at Yatinuwara in July and the other at Panadure totamune in November, bringing the total number of units to seven.

The area taken up for Health Unit work has increased from 1,605 square miles in 1929 to 1,672 square miles in 1930. Of the latter, 846 square miles are being worked, *i.e.*, one-fourteenth of the Island has been taken up for work and one-twenty-ninth of the Island is being worked.

The population comprised within Health Units has increased from 224,736 or 4.1 per cent. of the population of the Island in 1929 to 333,126 or 6.5 per cent. of the population in 1930. Of this population 52,903 or 15.8 per cent. is urban and 273,620 or 84.2 per cent. rural.

The type of work done has continued to be as originally planned and the personnel employed is: Medical officers of health 7, medical officer 1, sanitary inspectors 40, public health nurses 4, midwives 39, clerks 8, peons 7, coolies 7, and orderly 1. In addition to the above 2 entomological assistants and 2 field assistants are temporarily detailed for anopheline survey work in two units, *viz.*, Weudawili hatpattu and Paranakuru korale.

The birth rate in the different units varies from 30.5 at Yatinuwara to 48.4 at Paranakuru korale with an average of 39.3, while the rate for the Island is 37.4.

The death rate varies from 19.2 at Yatinuwara to 40.9 at Weudawili hatpattu with an average of 23.05, while the rate for the Island is 24.4.

The infant mortality rate varies from 86.2 at Matara gravets and Wellaboda pattu to 234 at Weudawili hatpattu with an average of 137, while the rate for the Island is 175.

The maternal death rate varies from 12.2 at Paranakuru korale to 20.5 at Kalutara totamune with an average of 17.7, while the rate for the Island is 21.4.

The cost to Government of this work for the year is Rs. 134,941.05 or a little more than one-hundredth part of the department's budget. What the local authorities coming within the various units have spent is not included as that expenditure would have been incurred if there had been no Health Units.

Health education has been carried out by means of 230 lectures, 290 school and village talks, and 6 Health and Baby Weeks, reaching an estimated population of 92,538 or about 27 per cent. of the health unit population.

Health surveys were conducted in 3 units, a total of 9,057 houses being surveyed.

1,388 cases of communicable disease were notified and investigated. Except in the case of the units at Kalutara totamune and Matara gravets and Wellaboda pattu, vedaralas have not notified cases.

1,833 first and 864 second doses of anti-typhoid vaccine were administered, as against 940 and 328 respectively in 1929.

6,125 primary and 3 secondary vaccinations against smallpox were done in five of the units, as compared with 5,049 in 1929. The percentage successful is 93.9, as against 86.8 in 1929. The number of unknown cases has decreased from 4.6 per cent. in 1929 to 2.3 per cent. in 1930.

Hookworm treatment was carried out in five of the units. A total of 9,005 persons were treated, as against 3,541 in 1929.

9,233 laboratory examinations were carried out, as compared with 5,008 in 1929, 808 being at the Health Unit offices and 8,425 in Colombo. The majority of the latter were faecal specimens in connection with hookworm treatment. The number of examinations carried out at Health Unit offices has increased from 141 in 1929 to 808.

In the matter of tuberculosis control 82 notifications were received. 203 home visits were made, and 193 contacts were kept under observation. 187 contacts received 176 examinations.

Malaria is a problem in two of the units: in one throughout its whole area while in the other in a part of it. In both units anopheline investigative work is being carried out.

In all the units 22 health centres are in existence and 843 child welfare clinics were held in them as against 19 centres and 702 clinics in 1929. At these centres 136 expectant mothers paid 561 visits, as against 308 visits in 1929; 892 infants paid 6,142 visits, as against 5,095 visits in 1929; 874 pre-school children paid 6,198 visits, as against 6,052 visits in 1929.

Thirty-nine trained midwives attached to the Health Units as against 24 in 1929 made 26,761 ante-natal visits to 4,659 expectant mothers at the rate of 5.7 visits per mother and attended at the delivery of 2,712 mothers paying them 14,504 *post partum* visits at the rate of 5.3 visits per confined case.

There are 176 schools in the units excluding the two units established during the year. In 72 of these medical inspection of the children was carried out, 8,337 being examined. 4,070 or 49 per cent. were found to be defective with a total of 6,643 defects or 1.4 defects per defective child.

There were 649 consultations at the office, 361 being children and 288 adults.

In five of the units latrine construction was carried out. In them 41,014 dwellings are provided with 12,539 latrines or at the rate of one latrine to about 3 dwellings. During the year 1,713 new latrines were constructed and 994 rendered to sanitary type, as against 1,544 and 651 respectively in 1929.

7,654 wells received 19,447 inspections. Fifty-three new wells were constructed, 587 were partially and 55 radically improved.

In six of the units (excepting Panadure totamune) there are 125 bakeries, 700 tea and coffee boutiques, 119 eating-houses, 9 aerated water manufactories, 47 meat stalls, 51 fish stalls, 80 vegetable stalls, 44 dairies, about 101 laundries, 15 galas, and 1 soap manufactory. All these have been inspected and received a total of 35,570 inspections. 20,538 defects were found and 8,750 of them were remedied.

7,397 head of cattle were inspected and 7,128 passed for slaughter while 6,114 goats were inspected and 6,108 passed.

25 samples of milk were examined. Meat and fish were seized on 7 occasions as unfit for human consumption.

95,376 inspections of private premises were made, 39,815 defects were found and 22,011 were remedied.

176 schools in five of the units received 2,012 inspections. 1,417 defects were found and 548 were rectified. 18 new latrines were installed. 130 out of the 176 schools or 73.8 per cent. of them are provided with adequate latrine accommodation.

397 applications for new buildings were received and 391 were reported on; 385 for additions and alterations and 392 were reported on (the excess being applications of the previous year); and 124 for certificates of conformity and 119 were reported on.

1,055 commercial premises were inspected and 271 were found with rat holes, there being 981 holes, of which 329 were closed.

As originally planned the Kalutara totamune unit has been utilized for the training of Health personnel. Three departmental Medical Officers of Health prior to their being appointed to areas of their own received their training here during the year, as well as 2 Health Officers, 1 from Mysore and the other from Burma. Two public health nurses were also in training.

A certain amount of opposition to Health Unit work was met with during the year due principally to misrepresentation for political reasons. This has largely been overcome.

The possibilities of Health Unit work are immense and that is how the work has impressed visitors. Co-operation on the part of the people and service on the part of the workers will produce early the results, the beginnings of which are noticeable now.

Anti-Malaria Work.—Anti-Malaria work was continued at Anuradhapura, Trincomalee, Kurunegala, and Chilaw, while two new centres were opened at Badulla and Puttalam.

The Departmental Committee on malaria held 11 meetings during the year. At these meetings all routine matters connected with the work and progress of Anti-Malaria Campaigns were dealt with and also matters referred to the Departmental Committee by the Anti-Malaria Advisory Board regarding malaria prevention in general.

Special Reports.—Special reports were submitted by officers of the department on the following subjects:—Epidemics, water supplies, festivals, pilgrimages, housing, cemeteries, sites for public latrines, general health of districts, &c.

1.—Preventive Measures.

(a) *Mosquito and Insect-borne Diseases.*

Malaria.—(1) The activities of the Anti-Malaria Division in 1930 were:—

Malaria work continued at the centres of Kurunegala, Chilaw, and Anuradhapura.

Institution of initial measures at Puttalam and Badulla.

Maintenance of past work at Trincomalee and Mahara Jail.

Special precautionary measures at Kataragama during the Esala Festival.

Anti-Malaria work around the Railway Stations of Polgahawela, Rambukkana, and Potuhera.

Spleen surveys at the various Anti-Malaria centres.

Miscellaneous investigations at certain Anti-Malaria centres.

Kurunegala: Incidence of Malaria.—There were two spleen surveys (confined to school children) performed in February and October. The total number of children (under 12 years and living in town) examined in February and October (1930) was 360 and 329 respectively. A spleen rate of 11.9 and 12.8 per cent. was revealed at these two examinations as against 37.0 per cent. and 22.9 per cent. (in February and October, 1927), 31.8 per cent. and 22.1 per cent. (in February and October, 1928), and 18.1 per cent. and 15.4 per cent. (in February and October, 1929).

Oiling.—The results were very satisfactory, the efficiency rate varying from 78.5 per cent. to 100 per cent. The number of applications made during the year numbered 100,115 at a total cost (materials and labour) of Rs. 6,903.26. Labour cost Rs. 2,957.70 and materials Rs. 3,945.56.

Paris Green.—The efficiency of this work varied from 41.4 per cent. to 96.6 per cent. and it had to be discontinued in November owing to heavy expenditure involved and the poor results obtained.

Anuradhapura.—The campaign in this town has now reached the eighth year of its activities and the measures adopted in the past were continued more intensively and under more careful supervision.

Incidence of Malaria.—Two spleen surveys were carried out during 1930, as against one possible in 1929. The February examination revealed a spleen rate of 34.6 per cent. among children (under 12 years) residing within the town area, as against 72.2 per cent. in those living outside the town.

Anti-Malaria Work.—The area of control was reduced from November 19, 1929. From November 1, 1930, the treatment of paddy fields and irrigation channels with Paris green was discontinued as its value had not been proved.

Oiling.—The total number of applications made during the year totalled 64,462 at a total cost of Rs. 9,722.10. The cost of labour was Rs. 2,255.55 and materials (kerosene and fuel oils) Rs. 7,466.55.

Paris Green.—Lime was used for the diluent as at Kurunegala. 11,009 applications were made at a total cost of Rs. 4,486.38, labour costing Rs. 2,267.84 and materials Rs. 2,218.54. The efficiency rate of this measure was not very good, varying between 25.8 per cent. and 84.1 per cent.

Maintenance Work: General.—5,617 inspections of drains aggregating 1,885,666 feet were carried out and 2,942 borrow pits, pools, &c., were generally attended to.

In the case of drains looked after by other authorities, oiling was the only expedient resorted to. The cost of general maintenance amounted to Rs. 3,041.80.

Halpanu-ela.—This channel has been maintained in splendid condition and portions have been strengthened by stonework or turfing. The cost of maintenance in 1930 was Rs. 1,846.47.

Chilar: Incidence of Malaria.—The spleen rate obtained in February, 1930, was very satisfactory (12.3 per cent.).

Oiling.—The efficiency of oiling work has been good, ranging from 76.7 per cent. to 95.0 per cent. A total of 25,309 applications was made at a total cost of Rs. 6,122.58, materials costing Rs. 3,242.93 and labour Rs. 2,879.65.

Paris Green.—The efficiency of this method of control was not satisfactory, the rate varying between 38.4 per cent. and 73.3 per cent. This work was stopped on November 1. The number of applications totalled 1,939 at a total cost of Rs. 902.50, materials costing Rs. 168.80 and labour Rs. 733.70.

Puttalam: Incidence of Malaria.—A spleen census of the school children was taken in February and a total of 433 examined, 353 being Muslims. The children under 12 years (355) gave a spleen rate of 49.5 per cent.

Anti-Malaria Work.—The work at this station is in the charge of a Sanitary Inspector who has had experience in malaria work. He is assisted by 1 Sanitary Inspector, 2 kanganies, and 30 coolies. During the dry season the field labour force is reduced.

Oiling.—The number of applications made totalled 8,989 at a cost of Rs. 1,721.63, labour costing Rs. 637.80 and materials Rs. 1,083.83. The efficiency rate varied from 38.7 per cent. to 100 per cent.

Badulla: Incidence of Malaria.—In October, 1930, a spleen rate of 3.9 per cent. was got from 535 school children examined. The rate obtained from outside the town was 8.1 per cent. In February, 1930, a spleen rate of 5.9 per cent. was got among those living in the town and 3.3 per cent. among those from outside the town. 100 blood films examined gave only 3 positive results, 2 benign tertian, and 1 malignant tertian.

Anti-Malaria Work.—Work was initiated at this centre on June 23, 1930. During the early half of the year, entomological investigations were carried out by the Entomological Assistants and Sanitary Inspectors.

Oiling.—The method and the technique employed here are no different from those in vogue at other centres. Oiling for the six months cost Rs. 3,000.97, labour totalling Rs. 1,749.68 and materials Rs. 1,252.89. The number of applications made aggregated 6,529. The efficiency rate varied between 63.4 per cent. and 96.1 per cent.

Paris Green.—This measure was discontinued in November. The procedure is the same as elsewhere. Rs. 1,591.15 was spent on the whole, materials costing Rs. 654. The efficiency rate varied between 21.1 per cent. and 49.3 per cent.

Trincomalee.—Work at this station is chiefly of a maintenance nature. With the exception of investigations upon the efficiency of anti-malaria measures and the distribution of fish in wells, the work has been similar to that performed in 1929.

Railway Anti-Malaria Work.—Forty-one drains, totalling 10,559 feet in length, were maintained in very good condition and 415 situations were regularly treated with oil. The total amount of filling done was 27,740 cubic feet and clearing amounted to 113,124 square feet.

Maintenance of Anti-Malaria Work at Mahara Jail.—Anti-malaria works at this jail were maintained in good condition and were regularly inspected by the Superintendent, Anti-Malaria Campaigns. An Entomological Assistant from the Colombo office carried out larval surveys once a week.

The monthly average rate of malaria cases among the prisoners was 1.5 per cent. as against 1.7 per cent. in 1929, 4.6 per cent. in 1925, and 37.4 per cent. in 1922.

(2) The Sanitary Engineering Division carried out the malaria work described below:—

Considerable improvements were made upon the malaria field equipment, particularly with regard to the lime sifting for Paris green work, and all field equipment was repaired and handled as before by the Division.

A complete scheme of anti-malaria drainage of the swamps at Diyatalawa was framed. Plans for anti-malaria drainage at Anuradhapura were completed and the work put in hand; also a small scheme of anti-malaria drainage for Chilaw. The work at Trincomalee was completed.

(3) Medical Entomology.—The Entomological Field Assistants were engaged upon survey and investigation work in connection with malaria control measures and Health Unit operations at the towns of Anuradhapura, Badulla, Chilaw, Kegalla, Kurunegala, Puttalam, and Trincomalee.

Malaria Congress.—The Medical Entomologist attended the Second International Malaria Congress held in Algiers in May, 1930, as delegate of the Ceylon Government. A report of the proceedings of the Congress was submitted to Government.

Visit to Italy.—At the invitation of the International Health Division of the Rockefeller Foundation, the Medical Entomologist proceeded to Sardinia and Italy in May and spent four weeks studying the methods of malaria organization and control adopted in those countries. The tour included visits to the central offices and laboratories of the malaria control organization in Rome and to a considerable number of towns and villages where operations directed towards malaria and mosquito control were in progress. Information of a very varied and valuable nature was obtained during this tour.

Research, &c.—(a) Mosquito Surveys.—The surveys instituted at the towns of Anuradhapura, Badulla, and Puttalam in November, 1929, were completed in April, 1930. They involved the examination of approximately 5,500 potential breeding places of anophelines (of which 4,200 or 76 per cent. contained larvae), and the collection and identification of nearly 170,000 larvae. All breeding places were registered and their positions and the species of *Anopheles* found in each were plotted on large scale maps.

(b) Entomological Work at Malaria Campaign Centres.—The entomological work directly associated with the various Anti-Malaria Campaigns consisted of (a) the routine examination of anopheline breeding places after treatment by the malaria control organization, and (b) investigatory work.

The method of execution and nature of the routine checking work performed at the malaria control stations was dealt with in the report for the year 1929.

The research work carried out at the malaria stations was similar to that described in the report for 1929. It included comparative observations on numerous dipping and adult catching stations situated within and outside the control areas at the different stations, and further investigations on the distribution, breeding habits, and relative prevalence of the various species of *Anopheles* present. This work involved the collection and identification of over 70,000 *Anopheles* larvae, and of approximately 3,500 adult mosquitoes.

(c) Entomological Work in Health Unit Areas.—Entomological investigations in the Health Unit areas of Kegalla and Kurunegala were commenced in May, 1930. In each area a number of villages was selected, and regular monthly observations made on the specific distribution, relative prevalence, breeding places, &c., of the local anopheline mosquitoes. Nearly 50,000 larvae and about 100 adult anophelines were collected and identified in these investigations. Adult anophelines were very scanty in the houses during the day.

The data obtained from the various field investigations undertaken are very considerable and much analytical work yet remains to be done before any interpretation of the results can be attempted.

(b) Epidemic Diseases.

The following information deals with the activities of the Sanitary Branch of the Department in connection with the cases and outbreaks of disease reported to it:—

Cholera.—There were no cases of cholera in the Island during the year.

Plague.—There have been in all 46 cases of plague with 42 deaths as compared with 80 cases with 74 deaths during 1929. The fatality rate in 1930 was 91.3 per cent. which is 1.24 per cent. lower than that of the previous year.

Of the total cases Colombo Municipality has contributed 40 with 38 deaths; Talaimannar 2; Dehiwala 1; Wadduwa 1; Kurunegala 1; and Madawachchi 1.

The cases found at Madawachchi and Talaimannar were among railway passengers who were on their way from Colombo to India after having acquired the infection and developed the disease in the former place. In the Dehiwala and Wadduwa cases the infection was believed to have been acquired in Colombo while in the Kurunegala case the source of infection could not be determined. There was no infection among rats in the places where the sporadic human cases occurred outside Colombo.

Of the 46 cases 29 were of the bubonic type and 17 septicaemic. Of the bubonic 1 showed cutaneous lesions and 25 proved fatal, while of the septicaemic the fatality was 100 per cent.

Smallpox.—There have been during the year 41 cases with 6 deaths giving a fatality rate of 14.6 per cent. 23 of these cases with 2 deaths occurred in an epidemic at the Angoda Lunatic Asylum during the month of February. Of the other cases 5 occurred in Colombo, 2 being in the city and 3 in the port, 5 at Wellampitiya, 2 at Peliyagoda, and 6 at Pussellawa.

Of the 41 cases 25 were discrete, 13 confluent, and 3 modified. Of the confluent cases 4 proved fatal and 1 each among the discrete and modified cases.

There is no endemic smallpox in the Island. Whenever an outbreak occurs the source of infection has been an imported case from India. In the Colombo port and Pussellawa cases the infection was definitely traced to India. One of the Colombo cases was also in a recent arrival from India, while the other acquired his infection at the Angoda Asylum. It was not possible to determine definitely the source of infection in the case of the outbreak at the Angoda Asylum or in the Wellampitiya and Peliyagoda cases.

Vaccination.—The total number of primary vaccinations performed during the year under review was 169,839; of these 152,857 were successful and 3,904 were failures. In 13,078 cases the results were not determined. The percentage of successful primary vaccinations was 97.5 in 1928, 98.72 in 1929, and 98.3 in 1930.

Vaccination is carried out throughout the year by trained male and female vaccinators. The former vaccinate in the towns, villages, and estates periodically according to a fixed programme; the latter work in the towns and villages and vaccinate Muslim women and children.

A vaccine station for the preparation of calf-lymph is maintained by Government (*vide* Section IX. of this report).

Chickenpox.—5,061 cases as compared with 4,378 cases in 1929 were reported during the year with 2 deaths giving a fatality rate of 0.04 per cent. Of these cases 47.4 per cent. occurred in the Western Province, 21.3 per cent. in the Central, 13.9 per cent. in the Southern, and 11.06 per cent. in Sabaragamuwa.

On an average 421 cases were reported each month with the maximum (652) in March and the minimum (259) in July. The incidence shows 2 peaks, one during the early part of the year and the other during the latter part.

Diphtheria.—52 cases as compared with 24 cases in 1929 were reported during the year with 12 deaths giving a fatality rate of 23.1 per cent. Of these cases 80.7 per cent. occurred in the Western Province. All the cases were of the faucial variety and occurred sporadically. On an average 4 cases were reported monthly with the maximum (7) in May and July and the minimum (2) in November.

Dysentery.—3,814 cases as compared with 3,988 in 1929 were notified during the year with 616 deaths giving a fatality rate of 16.15 per cent. Of these cases, 60.25 per cent. occurred in the Western Province, 17.08 per cent. in the Southern, and 10.7 per cent. in Sabaragamuwa.

On an average 317 cases were reported monthly with the largest number (574) in January and the smallest (88) in May. The type of dysentery that occurred was largely of the bacillary type and investigations carried out point to carriers and contacts as the chief factors in the spread of infection.

Enteric Fever.—2,535 cases were notified in 1930 as compared with 1,508 in 1929, with 571 deaths giving a fatality rate of 22.5 per cent. Of these cases 57.6 per cent. occurred in the Western Province and 25.8 per cent. in the Southern Province. On an average 211 cases were notified per month but the incidence during the year shows a wave from April to December, with the peak during July and August. Investigation of outbreaks points to the existence of carriers and contact infection plays a great part in the transmission of the disease.

Anti-typhoid inoculation was administered as follows:—

1st dose	..	..	..	5,172
2nd dose	..	..	..	2,007

Measles.—741 cases as compared with 4,108 in 1929 were reported with 4 deaths giving a fatality rate of 0.5 per cent. Of these cases 40.8 per cent. occurred in the Western Province, 18.08 per cent. in the Central, and 26.6 per cent. in the North-Western.

On an average 61 cases per month have been reported with the maximum (22) in April and the minimum (10) in December.

Mumps.—542 cases as compared with 305 in 1929 were reported. Of these 32.4 per cent. occurred in the Central and 24.7 per cent. in the Western Province.

On an average 45 cases were reported monthly, the incidence being highest in the months of June and July.

Whooping Cough.—309 cases as compared with 30 cases in 1929 were reported with 4 deaths giving a fatality rate 1.3 per cent. Of these cases, 60 per cent. occurred in the Western Province and 19 per cent. in the Central. The incidence of the disease shows a rise in the months of September, October, and November.

On an average 25 cases were reported monthly with the maximum (97) in November and the minimum (nil) in December.

(c) *Helminthic Diseases.*

Ankylostomiasis Campaigns.—The Ankylostomiasis Campaigns were carried out by the same agencies as before. The instructions with regard to dosage in mass treatment are as follows:—

A.—Combined Treatment for Hookworm and Round Worms.

Dosage Table in Minims.

Apparent Age.		Carbon Tetrachloride.		Oil of Chenopodium.
10-12	14	.. 7
13-15	16	.. 8
16-18	20	.. 10
19-50	30	.. 10
51-65	24	.. 8
66 and over	21	.. 7

The ratio of carbon tetrachloride to oil of chenopodium is 2 to 1 up to 18 years of age, and 3 to 1 thereafter.

B.—Treatment of Children under 10 Years of Age.

Children 10 years and under are best treated for this double infection with chenopodium solely, as carbon tetrachloride is not very efficient in destroying ascaris.

Dosage Table in Minims.

Apparent Age.		Oil of Chenopodium.		Apparent Age.		Oil of Chenopodium.	
2	1	7	..	..	6
3	2	8	..	..	7
4	3	9	..	..	8
5	4	10	..	..	9
6	5				

One treatment only should be given using the full dose mentioned—administered in castor oil as the purge. Prompt purging is very necessary in administering oil of chenopodium.

C.—Treatment of Hookworm Infection only by Carbon Tetrachloride.

Apparent Age.		Carbon Tetrachloride. Minims.		Apparent Age.		Carbon Tetrachloride. Minims.	
2-12	..	1½ times age in years		36-40	..	25-40	
13-20	..	Twice age in years		41-50	..	30-40	
21-35	..	35-45		51-55	..	20-30	

Drug to be given in one dose in an efficient purge of magnesium sulphate solution.
Magnesium Sulphate Solution.—One part of crystals of magnesium sulphate.
Two parts of water.
Maximum Dose.—3½ oz. of the solution.
The following tables summarize the work done :—

Ankylostomiasis Treatments by all Agencies in 1930.

Agencies.		Census.	Treatments.					
			First.		Subsequent.		Total.	
<i>Campaign Units.</i>								
School Units (a)	..	209,086	..	88,448	..	—	..	88,448
Estate Units (b)	..	226,423	..	152,693	..	—	..	152,693
Central Office	..	—	..	23	..	1	..	24
Total for Campaign		435,509		241,164		1		241,165
<i>Other Agencies.</i>								
Government Hospitals and Dispensaries	..	3,235,236	..	640,167	..	133,583	..	773,750
Mandapam Camp	..	91,287	..	80,401	..	—	..	80,401
Health Units	..	—	..	9,124	..	—	..	9,124
Estate Staffs (b)	..	498,723	..	153,148	..	36,343	..	189,491
Total for Other Agencies		3,825,246		882,840		169,926		1,052,766
Grand Total		4,260,755		1,124,004		169,927		1,293,931

(a) Census represents average daily attendance preceding three months.
(b) Census figures are duplicated in part.

Educational Work by Campaign Units.

Number of Lectures given by School Units with their Attendance and Literature distributed in 1930.

Lantern.		School.		General.		Total.		No. of Pieces of Literature distributed.
No.	Attendance.	No.	Attendance.	No.	Attendance.	No.	Attendance.	
239	.. 54,482..	1,693	.. 213,664..	3..	318..	1,935	.. 268,464..	7,226

Central Laboratory—Results of Microscopic Examinations.

Intestinal Parasites found in the Course of Microscopical Examinations made in Central Laboratory in 1930 (Incidental Findings).

	Before Treatment.			After Treatment.		
	Number.	Per Cent. infected.	Average Egg-count.	Number.	Per Cent. infected.	Average Egg-count.
Total examinations ..	17,379..	— ..	—	6,192..	— ..	—
Infected with <i>Necator americanus</i> ..	12,352..	71.1..	597	3,217..	52.0..	238
Infected with <i>Ascaris lumbricoides</i> ..	15,492..	89.1..	—	4,885..	78.9..	—
Infected with <i>Trichuris trichuria</i> ..	13,275..	76.4..	—	4,400..	71.1..	—
Infected with <i>Enterobius vermicularis</i> ..	599..	3.4..	—	140..	2.3..	—
Infected with <i>Tænia</i> (sp.) ..	18..	.1..	—	16..	.3..	—

Multiple Parasitic Infection.

	Before Treatment.		After Treatment.	
	Analysis of 17,379 Examinations.		Analysis of 6,192 Examinations.	
	Number.	Percentage.	Number.	Percentage.
Harbouring no parasite ..	395..	2.3..	411..	6.6
With one kind of parasite ..	1,865..	10.7..	1,262..	20.4
With two kinds of parasite ..	5,375..	30.9..	2,362..	38.1
With three kinds of parasite ..	9,369..	53.9..	2,084..	33.7
With four kinds of parasite ..	375..	2.2..	73..	1.2
Total infected with some kind of parasite ..	16,984..	97.7..	5,781..	93.4

The intensity of the infection which in 1925 was 1,102 (average egg-count per gramme per person) has been reduced to 597 in 1930, while the incidence rate has fallen from 90.5 per cent. to 79.5 per cent. during the same period. These results are very satisfactory.

2.—General Measures of Sanitation.

Conservancy.—(1) Public Latrines: During the financial year 1929-30 130 public latrines were built by the Sanitary Boards and Village Committees throughout the Island as tabulated below:—

Province.	Number of Latrines.
Western	7
Central	23
Southern	31
Northern	15
Eastern	8
Sabaragamuwa ..	30
North-Western ..	16
	<hr/> 130 <hr/>

Government allowed a grant of Rs. 75,000 to the Government Agents towards the cost of these latrines for the financial year 1929-30.

(2) Private Latrines: The following is a statement of the work done in this connection throughout the Island:—

(a) Number of notices served during the year—

(1) To construct latrines	18,647
(2) To repair latrines	3,800
(3) To convert pits into dry-earth latrines ..	382
	<hr/> 22,829 <hr/>

	Pit Latrines.	Dry-earth Latrines.
(b) Number of latrines—		
(1) Completed	14,831 ..	710
(2) Repaired	4,089 ..	420
(3) Pit latrines converted into dry-earth latrines..	..	186
(c) Number of persons who failed to comply with the requirements of the notices .. .. .	..	6,035
(d) Number of prosecutions entered .. .. .	..	2,672
(e) Number of convictions obtained .. .. .	..	1,838

The figures tabulated below show the work done on latrines in the various provinces during the year 1930:—

Province.	Latrines completed.		Latrines repaired.		Pit Latrines converted into Dry- earth Latrines.
	Pits.	Dry-earth.	Pits.	Dry-earth.	
Western	6,034..	275..	2,448..	287..	118
Central	2,987..	22..	557..	16..	8
Southern	2,364..	103..	641..	22..	7
Northern	158..	184..	25..	42..	16
North-Western	1,371..	82..	30..	39..	8
Uva	551..	1..	55..	—	—
Sabaragamuwa	1,366..	43..	333..	14..	29
	14,831	710	4,089	420	186

In Sanitary Board towns almost all the latrines are of the dry-earth type.

In rural areas the latrines are of the pit system but in some of the rural bazaars pit latrines have been converted into dry-earth latrines and conservancy is being done either by Village Committees or on a co-operative basis.

Disposal of Night Soil.—In Sanitary Board towns and in some of the rural areas where dry-earth conservancy is in vogue night soil is disposed of by trenching on sites especially selected. The trenching grounds are regularly inspected and maintained in good order.

Scavenging and Disposal of Refuse.—In Sanitary Board towns the refuse from residential and trade premises which is generally left in dust bins or in heaps by the roadside is collected and removed in scavenging carts to be ultimately disposed of by one of the following methods:—(a) Oumping, (b) burial in trenches, (c) incineration. Incineration is gradually taking the place of other and less satisfactory methods of disposal of refuse. Communal scavenging is in vogue in some of the rural bazaar areas and attempts are being made to introduce it to other rural areas.

The Sanitary Engineering Division drew up a complete scheme of sewerage and sewage disposal for the new Railway Workshops, Ratmalana, and submitted plans and an estimate. Preliminary investigations were carried out at Nuwara Eliya with regard to a proposed scheme of sewerage and sewage disposal dealing primarily with the bazaar areas. A scheme will be drawn up on completion of the necessary field works. Investigations are also in hand *re* the improvements to the sewage system at Manlapam.

A number of problems of refuse disposal were investigated and a pulverization plant for Kurunegala adopted.

Drainage.—Improvements of existing drains and the provision of additional ones in the various towns continue to be effected. The back drains of houses have received more attention than previously. Most of the Sanitary Board towns are provided with cement drains which are regularly maintained in a sanitary condition.

The Sanitary Engineering Division continued work on the town drainage schemes for Negombo and Panadure and completed the work undertaken for the Tea Research Institute, Talawakele. Existing and proposed anti-malaria drainage

measures involving the draining of private lands will continue to lack the impetus necessary until adequate statutory powers have been passed. Much of the anti-malaria drainage work already carried out at great expense to Government is rapidly becoming ineffective through lack of a Malaria Ordinance.

Water Supplies.—No town in Ceylon has an adequate and pure supply of water. The insistent demand for such supplies is emphasized by the large number of applications for the preparation of water schemes received from local authorities by the Sanitary Engineering Division.

The Sanitary Engineering Division carried out investigations at Mandapam and an extensive series of borings was taken to ascertain the causes of the high salinity of the well water at the camp there and certain recommendations were made.

Surveys were made at Ragalla, Bandarawela, Kandy, Hanguranketa, and Nawalapitiya, and work will shortly be taken up at Nuwara Eliya in connection with the improvements to the town water supplies. Reports upon the analyses of numerous water sources were also made for town and hospital supplies and the chlorination of new supplies undertaken at Kurunegala, Ratnapura, and Chilaw.

A water laboratory has been added to the division premises where routine tests will be carried out when it is fully equipped.

Public Wells.—111 public wells were built during the year as shown below:—

Province.				Number built.
Central	..	..	..	34
Southern	..	..	..	22
Northern	..	..	..	10
Eastern	..	..	..	11
North-Western	..	..	..	10
North-Central	..	..	..	3
Uva	..	..	..	4
Sabaragamuwa	..	..	..	17

Private Wells.—

(a) Number of inspections made	..	..	125,433
(b) Number of wells found unprotected	..	..	72,742
(c) Number of notices served for improvement	..	..	403
(d) Number of wells improved	..	..	1,202
(e) Number of persons prosecuted	..	..	58
(f) Number convicted	..	..	47

Examination of Water Supplies.—

Number of samples sent for—			
(1) Bacteriological examination	..	..	16
(2) Chemical examination	..	..	20

Number of samples found unfit for drinking purposes—			
(1) Bacteriologically	..	..	5
(2) Chemically	..	..	5

Wherever unsuitable supplies of water were detected the sources of such supplies have been improved. In the mountainous parts of the country drinking water is generally obtained from hill streams, the waters of which at one time were tolerably pure but now run the risk of being polluted due to the opening up of land for cultivation.

In the low-country streams, rivers, and wells, the majority of which are shallow and unprotected, are the principal sources of drinking water.

In the absence of the necessary legislation the safeguarding of water supplies in rural areas is a difficult problem. Persuasion, tact, and education have been responsible for whatever has been done in this direction but these measures have their limitations.

(3) Of Cooly Lines—	Inspected,	Defective.	Defects remedied.
Premises	2,473 ..	539 ..	392
Drains	2,018 ..	403 ..	270
Latrines	1,599 ..	280 ..	157
Mosquito breeding places ..	190 ..	117 ..	109
Water supplies	1,469 ..	187 ..	42
Scavenging	1,221 ..	265 ..	191
Conservancy	812 ..	109 ..	90

Inspections of private premises are carried out by the Sanitary Inspectors. The Sanitary Inspector notes the health of the inmates and any sanitary defects in the premises, the condition of latrines, the source of water supply, fly and mosquito breeding places all come under his purview; and any defects that can be corrected on the spot are attended to. Where advice given regarding the correction of defects is persistently ignored, notices to abate nuisances have been served, followed by legal action when necessary.

Other Offences against Sanitary Regulations.—The following statement gives particulars of offences against sanitary regulations which have not already been dealt with:—

Offences.	Prosecuted.	Convicted.
Erection of unauthorized buildings	138 ..	126
Failing to demolish temporary sheds	12 ..	9
Occupying buildings after compulsory closure ..	13 ..	10
Occupying buildings without certificate of conformity ..	47 ..	43
Failing to improve insanitary houses	25 ..	22
Deviating from approved plan	28 ..	19
Failing to provide drains	3 ..	2
Faecal pollution	210 ..	185
Carrying on unlicensed trades	420 ..	335
Exposing for sale food unfit for human consumption ..	103 ..	86
Depositing rubbish in drains	44 ..	39
Throwing rubbish on public road	29 ..	28
Sinking wells without the permission of Chairman, Sanitary Board	9 ..	9
Failing to clear rank vegetation	57 ..	47
Failing to notify cases of infectious diseases ..	46 ..	40
Failing to provide dust bins	9 ..	9
Alterations to buildings without permits	32 ..	29
Failing to fill in insanitary pits	8 ..	5
Exposing for sale food on roadside	68 ..	60

3.—School Hygiene.

The school medical service remains at the same strength as last year, viz., five School Medical Officers and six school nurses distributed as follows:—In Colombo, two School Medical Officers and three nurses, and in Kandy, Galle, and Jaffna, one School Medical Officer and one nurse for each centre.

These officers inspected 673 schools and examined 81,240 children. The number of children dealt with was far too large to permit of unhurried examination and complete overhaul.

The defects found are tabulated below—

	Western Province, Colombo.	Southern Province, Galle.	Central Province and Uva.	Northern Province, Jaffna.	Total.
Number of schools inspected ..	105 ..	155 ..	174 ..	239 ..	673
Number of pupils examined ..	15,568 ..	23,579 ..	24,783 ..	17,310 ..	81,240
<i>Defects Noted.</i>					
(a) Dental caries	2,183 ..	1,603 ..	3,845 ..	2,570 ..	10,201
(b) Visual defects	879 ..	211 ..	333 ..	245 ..	1,668
(c) Enlarged tonsils	752 ..	1,474 ..	693 ..	1,249 ..	4,502
(d) Adenoids					
(e) Ankylostomiasis	236 ..	1,761 ..	4,334 ..	1,762 ..	8,093
(f) Malaria	9 ..	143 ..	542 ..	2,611 ..	3,287
(g) Skin diseases	209 ..	1,761 ..	295 ..	420 ..	2,685
(h) Aural defects	85 ..	6 ..	19 ..	148 ..	258
(i) Parangi	— ..	— ..	— ..	2 ..	2
(j) Unvaccinated	39 ..	815 ..	621 ..	507 ..	1,982
(k) Other defects	316 ..	362 ..	721 ..	1,108 ..	2,507
					35,185

There were four special clinics arranged for school children in Colombo and their work is summarized below:—

Dental Institute.—1,566 children with attendances of 1,900 were seen in 1930, as against 879 children and 1,202 attendances in 1929.

The numbers attending and the work done have been nearly doubled; the extractions in 1930 were 1,117, as against 516 in 1929 and the total treatments were 4,628 and 2,613 in each year respectively. The treatments included 681 cleanings, 57 alveolar abscesses, and 45 fillings.

Eye Hospital Clinic.—

Eye cases	..	..	..	755
Ear, nose, and throat	..	..	..	83
Tonsils and adenoids removed by operation	..	..	..	57
Total children seen, 1,802 as against 881 in 1929.				

Clinic at Anti-Tuberculosis Institute.—Total children 267 and total attendances 760. The clinic was conducted by the Assistant School Medical Officer and the children attending were suffering from general defects of a minor nature.

Municipal Clinic, Mutual Dispensary.—Total children 227 and total attendances 529. The clinic was opened in 1929 and is conducted by the Municipal doctors. The number of children examined this year (81,240) is almost the same as in 1929 (81,740) and the percentage of defects (43 per cent.) is a little less than last year (44 per cent.).

Dental Caries (10,201 cases) was the defect most widely noted and it is for this condition that facilities for treatment are most lacking. The only Government Dental Institute for the Island is the one in Colombo.

Ankylostomiasis formed the next largest class of defect found. Of the 8,043 cases, Jaffna provided 4,334, the Southern Province and Central Province 1,716 and 1,762, respectively, and the Western Province only 236. These figures are a good index of the relative advance in sanitary education and practice in these provinces.

In the Northern Province the local prejudice against the use of latrines is dying hard. Reference to the ankylostomiasis treatment figures earlier in this section will show the number of hookworm treatments given to school children by the Ankylostomiasis Campaign Officers.

Enlarged Tonsils and Adenoids.—4,502 cases were reported. Except in Colombo the facilities for operative treatment are limited, and in outstations the prejudice against such treatment is very great.

Malaria.—3,287 cases were reported, 2,611 being from the Northern Province, in certain parts of which nearly every school child has an enlarged spleen. Only 9 cases were reported from the Western Province, where malaria does not exist as a problem.

Skin Diseases.—2,685 cases reported. Scabies is the commonest skin affection and it is especially prevalent in the Northern Province.

Visual Defects.—1,668 cases reported. The use of spectacles for correction of errors of refraction is not popular among the poorer classes. The School Medical Officer, Southern Province, issued free of charge 8 pairs of spectacles for his province. Facilities for skilled examination of eye defects are available not only in Colombo, but at the hospitals of Galle, Kandy, Jaffna, Badulla, and Batticaloa.

The School Medical Officer, Western Province, drew attention to the occurrence of cases of trachoma and the importance of thorough treatment of this infective disease.

Parangi.—Only two cases were reported, both from the Northern Province. The disappearance of this disease from the schools is encouraging testimony to the value of the work done in past years by the Parangi Campaign Officers.

Unvaccinated Children.—1,982 children were found to be unvaccinated but most of them were vaccinated before the end of the year.

Defects in Buildings and Equipment.—A certain amount of overcrowding in poor buildings (assisted schools) existed in 39 schools in the Central Province, and 12 in the Northern. Latrine accommodation was very defective in the Northern Province in 98 schools, and the supply of drinking water was also found unsatisfactory in the Northern and Southern Provinces. This is a serious reflection upon the management of the schools as the cost of providing a supply of good drinking water in schools is generally slight.

A gradual improvement in the type of school furniture provided was noted.

Improvements and Extension.—There are about half a million school children in Ceylon but the school medical service as at present organized is much too limited in size to care for more than a small part of them. In order, therefore, that more schools may be brought under supervision arrangements are being made for the Medical Officers of Health to carry out school medical inspection as part of their routine duties.

4.—Labour Conditions.

As was stated in last year's report, manual labour in Ceylon may be considered under two main heads: immigrant and indigenous labour. For the most part immigrant labour is unskilled labour, supplying workers for the estates in Ceylon; whereas indigenous labour includes both skilled and unskilled workers. This Department is more directly concerned with the sanitary conditions of immigrant labourers on estates than of indigenous labourers as such, because the medical wants of estates are governed by Ordinance No. 9 of 1912, whereas there is no Ordinance dealing with the medical wants of indigenous labour as such. The care of the sanitary environment of indigenous labourers is a matter that comes within the purview of the sanitary authorities of the locality in which they reside, and the hospital and dispensary facilities provided by Government for the people of the Island are at their disposal.

At present there is no legislation analogous to the Medical Wants Ordinance dealing with the sanitary and medical care of industrial labour which includes not only indigenous labour, but a large portion of imported labour, skilled and unskilled. No doubt in the future this matter will receive attention.

The following report deals with the sanitary conditions of immigrant labourers on estates and the medical facilities available to them:—

Medical Wants on Estates in 1930.

The medical wants of estates are provided for by Ordinances Nos. 9 and 10 of 1912.

Hospitals and Dispensaries.—(a) The planting districts of Ceylon had in 1930 66 Government hospitals and 108 Government dispensaries scheduled to estates. The figures for 1929 are 65 hospitals and 112 dispensaries. These hospitals are under the charge of fully qualified medical officers and are staffed with matrons, nurses, apothecaries, and attendants. Besides these Government institutions there were in 1930 88 estate hospitals and 715 estate dispensaries built and maintained by proprietors of estates. The figures for 1929 were 85 estate hospitals and 706 estate dispensaries. The majority of the estate hospitals are well built and suitably equipped and are a credit to the estates concerned. As an aid to the maintenance of estate hospitals the proprietors of estates on which hospitals are maintained are given by Government a rebate on the duty paid by them on the export of the products of the estates, amounting to 15 cents on every 100 pounds of tea and cacao and 75 cents on every 100 pounds of rubber exported. In the case of estates with dispensaries, a free supply of drugs to the value of 50 cents per labourer per annum is given by Government. From October, 1929, to September, 1930, Rs. 240,000 was paid by Government as rebate as against Rs. 189,155 the previous financial year. The total cost of the drugs issued free during the financial year 1929-30 was Rs. 285,703.87 as against Rs. 255,984.78 the previous financial year.

(b) The Inspecting Medical Officer, Colombo, reports that most of the dispensaries he inspected were not of a good type. Attention has been drawn in previous reports to this unsatisfactory feature, and it is hoped that in future all

dispensaries erected on estates will conform with the Government type plan, copies of which can be obtained by superintendents of estates on application to the Inspecting Medical Officer of the Province or to this office.

(c) For several years now attention has been drawn to the great need that exists for an improvement in the professional qualifications of persons employed on estates as dispensers. The majority of estate dispensers are not properly trained, but are merely “approved” dispensers who have a very limited knowledge of the rudiments of diagnosis, causation of disease, treatment and sanitation, and it is not proper that such men should have the medical charge of a large labour force. It is true that in recent years there has not been an adequate supply of qualified apothecaries to meet the demands of the Department of Medical and Sanitary Services, hence it has been extremely difficult for estates to get properly trained dispensers. Matters improved in this respect in 1930, however, and towards the end of the year there were more qualified apothecaries applying for posts in the Department of Medical and Sanitary Services than there were suitable vacancies. In these circumstances if estates now want properly qualified dispensers they must offer sufficiently high salaries to attract qualified apothecaries waiting for employment in this Department. If such apothecaries were appointed to estates not only would they be able to diagnose and treat disease better than the majority of the present dispensers but they would also be able to recognize serious cases demanding the attention of the District Medical Officer; hence it is probable that the number of labourers (including infants) who die without attention from the District Medical Officer would be considerably reduced. As pointed out last year this figure was about 40 per cent. in 1929. The calculations made on the 1930 figures also show a percentage around 40. With a view to encouraging estates to employ better qualified medical men, the Medical Wants Committee during the year decided upon a scale of marks to be given for medical qualifications on estates. Due weight was attached in the scale to the different qualifications usually met with in estate medical officers, apothecaries, and dispensers.

Inspecting Officers.—The work of visiting estates and inspecting lines devolves on three Inspecting Medical Officers, each of whom has an Assistant. These officers are engaged all the year round in visiting estates and advising superintendents regarding the best methods of improving the sanitary conditions and housing on their estates. The total number of estates visited in 1930 was 832.

Sanitary Conditions on Estates and Line Maintenance.—The Inspecting Medical Officers report that the sanitary conditions on the estates visited were satisfactory. The Inspecting Medical Officer, Colombo, states that on the whole the lines visited were kept in good repair and fairly clean. Interior walls of rooms were still begrimed in many instances because of the daily cooking. In this respect lines with kitchens or with a chimney over the cooking place were a great improvement over the ordinary type of line. There is still room for improvement in such matters as vegetable gardens and sheds for live stock, which should be removed beyond the minimum distance prescribed by the rules. The Inspecting Medical Officers report that there was much less soil pollution in evidence round the lines, but they also emphasize the necessity for more frequent visits to the lines by the authorities in charge of the estates. Estate dispensers are expected to inspect lines as a part of their routine work and they can do a great deal to see that better sanitary conditions are maintained.

Of the 280 estates inspected in the Central Province Inspectorate the general sanitary condition of 38 was reported to be bad; in the Uva Province Inspectorate the sanitary condition of 9 out of 204 estates inspected was bad; in the Colombo Inspectorate the sanitary condition of 14 out of the 338 inspected was bad.

Construction of Lines.—Owing to the continued depression in rubber and tea, the progress of line construction had to be more or less abandoned during the year, especially in the rubber districts. Many company-owned estates in the tea districts were able to carry out a modified programme of improvements of an urgent nature. A large number of rubber estates were compelled to reduce

their labour force and either restrict or stop all expenditure on line construction, confining their efforts to maintaining the existing lines in a sanitary condition. Several estates were closed down altogether.

Of the rooms inspected in the Colombo Inspectorate, 16,664 out of 18,354 were up to Government requirements; in the Central Province Inspectorate 16,883 were up to Government requirements and 7,588 were temporary rooms not up to standard; in the Uva Province Inspectorate 18,214 out of 26,748 were up to Government requirements.

Accommodation.—Overcrowding still exists to a small extent usually on the smaller estates. In the Colombo Inspectorate 12 of the estates visited had slightly overcrowded lines, while in the remaining 326 estates visited there was no overcrowding. In the Central Province Inspectorate there was overcrowding on 18 of the estates visited. In Uva 10 estates were found to be slightly overcrowded and 11 estates overcrowded. The following are the figures for the past four years:—

Inspector- ate.	Not overcrowded.				Slightly overcrowded.				Overcrowded.			
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
Colombo	.. 7..	239..	262..	326..	— ..	— ..	11..	12..	61..	19..	4..	—
Central	.. 102..	117..	256..	170..	14..	37..	—..	5..	45..	22..	7..	13
Uva	.. 134..	159..	168..	183..	40..	63..	21..	10..	72..	—..	1..	11
	243	515	686	679	54	100	32	27	178	41	12	24

Water Supplies.—The importance of a good piped water supply from a clean protected source is being realized by estates, and the number of protected supplies is increasing yearly. In 1929 309 of the estates visited had an entirely protected supply; in 1930 432 of the estates visited had protected supplies. The number of unprotected supplies formed about 20 per cent. of the total number of supplies inspected, and were usually on estates owned by private individuals. As pointed out in last year's report, the source of a piped water supply is of the greatest importance; streams in the low-country are suspect and in the midst of rubber and tea have to be carefully protected from pollution through manuring.

Most cases of diarrhoea, dysentery, and bowel complaints amongst coolies can be put down to defective water supplies, and money spent on the provision of a supply of good potable water is money soundly invested.

Latrines.—Good progress is reported in this respect on the estates visited. A certain number of estates, it is true, were not provided with latrines, but in some instances these were small estates recently registered. The following table shows the progress made in latrine construction in the past four years on the estates inspected:—

Inspector- ate.	Provided a Sufficient Number of Latrines.				Provided an Insufficient Number of Latrines.				Provided no Latrines.			
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
Colombo	.. 103..	171..	238..	270..	48..	60..	36..	26..	54..	27..	3..	8
Central	.. 32..	60..	160..	59..	26..	86..	97..	122..	52..	30..	6..	12
Uva	.. 99..	123..	83..	143..	124..	99..	92..	43..	23..	—..	15..	18
	234	354	481	472	198	245	225	191	129	57	24	38

Attention has again to be drawn, however, to the insanitary condition of some of the latrines. It was generally found that soil pollution in the neighbourhood of estates was usually due to the unclean and insanitary condition of the latrines, which made them unserviceable. Such a state of affairs does not tend to remove from the mind of the estate labourer his old prejudice against latrines. Rather it tends to drive him back to his old ways and it prevents children from acquiring the habit of using latrines.

Every superintendent should have this department of estate sanitation carefully supervised and should see that clean sanitary latrines at convenient places are provided.

On some estates the bucket type of latrine had been installed and resulted in a more regular use of the latrines and in less soil pollution. The labourers appreciate this type of latrine, as it has less smell, does not get water logged, and is more easily kept clean and sanitary. Its wider use would be a welcome development.

Vital Statistics.—The most important feature in the vital statistics is the drop in the infantile mortality rate from 213 in 1929 to 194 in 1930. This represents a decrease of 8.92 per cent., whereas the reduction in the infantile mortality rate for the whole Island from 187 in 1929 to 175 in 1930 represents a decrease of 6.42 per cent. only.

In 1930, 2,574 male infants and 2,230 female infants died on estates, a total of 4,804, as against a total of 5,338 in 1929. The infant death rates of the different estate districts for 1927, 1928, 1929, and 1930 are given below:—

	1927.	1928.	1929.	1930.
Kandy ..	250	219	229	200
Matale ..	231	230	235	234
Nuwara Eliya ..	259	220	240	223
Badulla ..	216	228	231	185
Ratnapura ..	208	185	185	164
Kegalla ..	177	172	147	136
Colombo ..	221	205	134	138
Kalutara ..	150	140	144	159
Galle ..	228	172	169	215
Matara ..	250	152	231	213
Kurunegala ..	256	363	215	247

Causes of Death.—The chief causes of death during the past four years are as follows:—

Chief Causes of Death during the past Four Years.

Causes.	Infant Deaths under One Year.				Percentage of Deaths to Total Infant Deaths on Estates.				Corresponding Percentage for the Island.			
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
Convulsions..	769..	945..	1,008..	778..	17.7..	18.1..	18.9..	16.2..	29.3..	28.3..	29.2..	25.7
Tetanus ..	1..	3..	6..	2..	.02..	.06..	.1..	.04..	.1..	.2..	.1..	.1
Diarrhoea ..	83..	69..	60..	58..	1.5..	1.3..	1.1..	1.2..	1.4..	1.3..	1.6..	1.4
Bronchitis ..	111..	121..	123..	107..	2.0..	2.3..	2.3..	2.3..	.7..	.7..	.8..	.7
Pneumonia ..	313..	196..	239..	185..	5.7..	3.8..	4.5..	3.8..	2.7..	2.3..	2.3..	2.1
Enteritis ..	10..	14..	8..	15..	.2..	.3..	.1..	.36..	.7..	.7..	.9..	.6
Debility ..	2,845..	2,795..	2,817..	2,661..	51.8..	53.6..	52.8..	55.4..	22.3..	19.7..	20.9..	21.0
Prematurity .	791..	748..	783..	707..	14.4..	14.34..	14.7..	14.7..	6.4..	5.8..	6.3..	6.5
Other Causes.	366..	324..	294..	291..	6.7..	6.2..	5.5..	6.0..	36.4..	41.0..	37.9..	41.6

Debility and convulsions are once more the chief causes of death.

Maternal and Child Welfare.—As stated in last year's report the chief causes of high infantile mortality among children on estates are:—(1) The ignorance of the mother chiefly as regards feeding and clothing; (2) The shifting of gangs from estate to estate; expectant mothers and infants are exposed to great hardships; (3) The exposure to the severe cold in the high hills of Ceylon of infants born in the hot plains of India; (4) The want of sufficient clothing for infants born in the hill country of Ceylon; (5) Ankylostomiasis in the mother. The need for well-trained and tactful midwives on estates is once more emphasized. In last year's report an account was given of the treatment of the mother and child by the line dhais. It is not surprising that many infants weakened by lack of nourishment die of debility and that far too many mothers enfeebled by the treatment received fall easy victims to septic infection. The presence of a well-trained midwife would prevent such drastic treatment from being meted out to mother and child.

The Inspecting Medical Officer, Central Province, remarks that in the warmer districts infantile mortality was low in 1930 and as elevation and cold increased so did the infant deaths. He therefore advocates the provision of suitable clothing in the colder districts for tender infants.

The Inspecting Medical Officer, Colombo Inspectorate, emphasizes the advantages of a maternity room in the lines over a maternity ward in the hospital. Such maternity rooms are established and maintained at small cost, and ensure that the mother is confined in a clean room, thus diminishing the risk of infection. These rooms are made as follows:—Two adjoining rooms of a set of lines are taken for this purpose. The floor of one is cemented, and the walls limewashed

after each occupation. The two rooms are connected by a door. The "cemented" room is the lying-in room and is furnished with a plank bed, a rough table, basin and jug, a couple of buckets, a few mats, two cumblies, and half a dozen sheets. The other room is occupied by the family of the patient.

As the mother has her family near her she has no fear or anxiety and this peaceful frame of mind helps during her confinement. Moreover, she is easily provided with food, clothes, &c., by her own people. In a case of difficult labour the medical officer has a clean room in which he can work comfortably and keep his instruments clean.

The most distressing feature of maternal welfare is the high maternal mortality rate, which was 23.0 in 1930, as compared with 20.1 in 1929 and 19.5 in 1928. This high rate is probably largely due to the stubborn conservatism of the Indian labourers which prevents their utilizing freely the medical benefits now provided on estates for lying-in women. The maternity wards on estates are not used freely and it is only by the gradual education of the female labourers and their personal experience of the advantages to be derived by treatment in maternity wards on estates that any considerable improvement can be expected.

Principal Causes of Deaths among Estate Labourers.—Figures showing the principal causes of deaths among Indian immigrant labourers are given in Section II., Vital Statistics. The chief causes of death were debility, pneumonia, ankylostomiasis, infantile convulsions, and dysentery. As pointed out in last year's report, the high death rate due to pneumonia might be reduced if more precautions were taken to guard against the effects of extreme climatic changes both by the provision of facilities on estates for drying wet blankets and by the supply of two blankets to every labourer working on estates over 2,000 feet.

Medical Attendance on Estates.—The returns that come to this office show that in many cases estates do not summon a qualified medical officer in serious cases of illness or accident. The estate dispensers are often to blame for this, as they are not always able to recognize a series case of illness. Estate superintendents should go very carefully into every case of death in which qualified medical aid has not been summoned and should endeavour to discover the cause of such failure and take steps to see that it is not repeated. As pointed out earlier in this report, in about 40 per cent. of the deaths that occurred on estates in 1930 no qualified medical aid was given. This figure is much too high and could easily be reduced by a closer supervision on the part of estate superintendents of the work of estate dispensers.

Epidemic Diseases.—No cases of cholera or smallpox occurred on the estates visited in 1930, but on an estate in Pussellawa district in the Central Province there were six cases of smallpox, with two deaths. Malaria as usual prevailed in the Matale, Dumbara Valley, and Galagedara districts of the Central Province.

General.—The following mortality statistics for estates are of interest:—

	1927.	1928.	1929.	1930.
General mortality rate	.. 28.2	.. 27.6	.. 25	.. 22.1
Infantile mortality rate	.. 228	.. 211	.. 213	.. 194
Maternal mortality rate	.. 20	.. 19.5	.. 20.1	.. 23
Deaths from pneumonia	.. 2,732	.. 2,816	.. 2,589	.. 2,077
Deaths from dysentery	.. 1,926	.. 1,723	.. 1,384	.. 1,028
Deaths from diarrhoea	.. 1,703	.. 1,597	.. 1,349	.. 1,080

These figures show that the improvements carried out in housing, food supply, water supply, and general sanitation have been of real benefit to the Indian labourers as evidenced by a rapidly decreasing death rate during the last four years. As previously pointed out, the maternal death rate is the only ugly feature of these statistics, and one reason for that has already been given.

5.—Housing and Town Planning.

Every endeavour has been made to get existing houses, wherever possible, improved and latrines provided to every new house that is constructed. All

applications for erection of new houses recommended were in accordance with the Housing Ordinance. The following is a statement of work done under the Ordinance referred to:—

(1) *New and Constructed Buildings.*

Number of applications received and dealt with in respect of—			New.	Reconstruction and Repairs.
(a) Dwelling houses	..	..	826	482
(b) Other buildings	..	..	851	135

(2) *Insanitary Buildings.*

	Reconstruction and Repairs.
(a) Number of insanitary buildings reported upon during the year	304
(b) Number of closing orders obtained	120
(c) Number of buildings improved	77
(d) Number of demolition orders obtained and extended	24
(e) Number of buildings voluntarily demolished	35

6.—Food in Relation to Health and Disease.

The general provision in the law for the control of food unfit for human consumption is inadequate. Efficient control can only be exercised by a Pure Food Act and the introduction of such an Act is strongly urged.

Every requirement in the existing by-laws has been insisted on and applications for licensed trades that have been recommended were only for those that had complied with all the requirements.

In Sanitary Board towns a good deal of work has been done, but in rural areas owing to the absence of suitable by-laws much improvement could not be effected. A statement relating to the work done in this connection is given under Licensed Trades.

Milk Supply.—The existing law for the control of milk is defective. Attempts to remedy these defects have not met with success. Regulations for the control of sale of milk in tea boutiques in the Sanitary Board towns of Kandy District have been introduced and were published in the *Government Gazette* of August 22, 1930.

In the absence of a Pure Food Act the present unsatisfactory control of milk will continue.

There is no control of milk in rural areas owing to lack of suitable legislation.

The following is a statement of work done in connection with milk control:—

(a) Number of samples taken and sent for analysis	..	205
(b) Number of samples found adulterated	..	142
(c) Percentage of water varied from	..	6 per cent. to 87.5 per cent.
(d) Average adulteration	..	30.6 per cent.
(e) Number of persons prosecuted	..	141
(f) Number convicted	..	114
(g) Number warned and discharged	..	11
(h) Amount of fines realized	..	Rs. 1,920.50

Meat Inspection.—All cattle slaughtered in areas controlled by local bodies are inspected before slaughter, which takes place in slaughter-houses provided by the Local Authority. All meat stalls have to be licensed. These licences are granted by the Government Agent or the Chairman, Sanitary Board, as the case may be, only on the recommendation of the Medical Officer of Health of the area. In rural areas a fair number of slaughter-houses has been built by private individuals. These have been maintained satisfactorily during the year.

For the sale of meat, fish, vegetables, and fruits, markets are generally provided in areas under local bodies. In rural areas these articles are sold in fairs which are generally held once a week at different centres. These have been supervised and maintained satisfactorily by the Inspectors in charge of areas concerned.

All foodstuffs exposed for sale were regularly inspected and prompt action was taken, where necessary, under the provision of the general law dealing with food unfit for human consumption.

The storage of rice is controlled by specific regulations in certain towns as a precautionary measure against plague.

B.—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

Health Education.—The placing of health education in the charge of a special officer gave further stimulus to the work of spreading a knowledge of hygiene and sanitation during the year. Mr. J. H. de Saram, who was appointed Superintendent of the Health Education Division, worked six months in the Department studying local problems and then proceeded to Europe, the United States and the Far East to study Health Education and Publicity Methods in those countries with a fellowship granted him by the International Health Division of the Rockefeller Foundation.

Health Lectures.—The conditions for the award of Teachers' certificates on Rural Sanitation were modified. Classes were limited to 35 each selected by the local Inspector of Schools and the production of a satisfactory note book and six months' practical application in the schools will be required before a certificate is awarded.

Classes were formed at Ambalangoda, Kegalla, Ratnapura, Chilaw, Kurunegala, and Padukka.

324 lectures illustrated with lantern slides or cinema films were delivered at 66 centres throughout the Island as a part of the routine work of Medical Officers of Health.

Articles to the Press and Radio Talks.—The weekly articles to the Press and the Radio Talks in English and Sinhalese were continued as before.

Health and Baby Weeks.—Stimulated very largely by the Imperial Challenge Shield and the Guneratne Shield Competitions, Health Weeks were held in Horana, Kalutara, Jaffna, Trincomalee, Panadure, Badulla, Tangalla, Kurunegala, Balangoda, Kegalla, Matugama, Puloly, Matale, and Matara, where the activities reached a high standard and attracted large crowds.

The Imperial Shield for the best Health and Baby Week in the British Empire, exclusive of the British Isles, was won by the Panadure Health and Baby Week Committee, whilst the Kalutara Health and Baby Week Committee secured the second place in that competition.

The Guneratne Shield was awarded to the Hambantota District Health Exhibition and Baby Show. The Trincomalee Health Week obtained the second place, whilst Jaffna and Puloly West were awarded certificates of merit.

A School Health Week conducted in a group of 32 schools in the Kalutara District created much interest in the children and their parents in health problems. Professor Bostock Hill, the founder of the Health Week movement in England, who visited one of these schools, characterized the demonstration there as the best he had seen during his 20 years' public health work.

C.—TRAINING OF SANITARY PERSONNEL.

No training class for Sanitary Inspectors was held during the year under review.

D.—RECOMMENDATIONS FOR FUTURE WORK.

In view of the success of Health Units it is proposed eventually, when funds permit, to develop public health work in other areas on similar lines. In order to do this it is necessary to subdivide the areas now in the charge of District Medical Officers of Health so that such activities as maternity and child welfare work, school health work, mass treatment against hookworm infestation, &c., may be carried out by them in addition to the supervision of general sanitary measures.

The high maternal and infant mortality rates obtaining in Ceylon cannot be reduced until an efficient and carefully controlled midwifery service is available in the rural areas and maternity and child welfare clinics are established throughout the Island to advise mothers in the care of their health during pregnancy and in child care.

It is proposed to discontinue the itinerating units of the Arkylostomiasis Campaigns and make use of hospital and dispensaries to a greater extent than hitherto, as centres for mass treatment against hookworm infestation. With this object in

view the dispensers of the campaign will be posted to the more important hospitals and dispensaries to give treatment to out-patients in the morning and carry out propaganda work in the surrounding villages in the afternoon.

Periodic mass treatment will also be given by School Medical Officers and Medical Officers of Health to school children in their respective areas, as a part of their routine duties. At the same time every attempt will be made to obtain permanent control of the disease by preventing soil-pollution by enforcing the construction and use of latrines in rural areas. In this way it is hoped to reduce the intensity of hookworm infestation to such a degree that the symptoms of ankylostomiasis will not manifest themselves.

IV.—PORT HEALTH WORK AND ADMINISTRATION.

Ceylon is guarded against the introduction of dangerous infectious disease from abroad by the Health Service at each of its ports and by the two Quarantine Camps at Mandapam and Tataparai in Southern India. The chief sources of danger to the Island are (a) the grain traffic with Rangoon and other Burmese ports in respect of plague—some 6,000,000 bags of rice are imported annually of which more than 4,500,000 come from the plague-infected port of Rangoon—and (b) the passenger and immigrant labour traffic between India and Ceylon by the Dhanuskodi-Talaimannar and the Tuticorin-Colombo routes, in respect of cholera and smallpox. More than 200,000 persons a year enter Ceylon by these two routes which are protected by the Quarantine Camps of Mandapam and Tataparai respectively.

The controlling authority is the Board of Immigration and Quarantine, but the technical work is performed by medical officers, apothecaries, and vaccinators of the Department of Medical and Sanitary Services. The Port of Colombo has a whole-time staff of four medical officers, while at the fifteen minor ports the local medical officers give part of their time to the work. The surveillance of travellers after arrival at their destinations in Ceylon is also carried out by medical officers of the Department.

Colombo.—2,506 British and foreign vessels and 280 Indian sailing craft called at the port, as against 3,213 and 206 respectively in 1929. Three vessels arrived infected with smallpox; the patients were landed and sent to the Infectious Diseases Hospital and the ships kept in strict quarantine until vaccination, disinfection, and other control measures had been completed. No vessels infected with plague or cholera visited the port. There were three *suspected* vessels during the year; two had landed cases of smallpox, one at Madras and the other at Singapore, and the third had landed a case of typhus at Port Said.

Since plague is endemic in Colombo town (there has been a yearly average of 43 human cases during the past five years) careful measures are taken in accordance with Article 13 of the International Sanitary Convention, 1926, to prevent infection reaching shipping in the harbour. All ships are moored away from the shore and work in "restricted quarantine," the harbour lighters are subjected to weekly deratisation with sulphur dioxide and the port coolies for loading and unloading cargo are disinfected and medically inspected. Clayton gas apparatus is available for the deratisation of small vessels with empty holds, but the port does not possess the means of dealing with larger ships or of carrying out fully the provisions of Article 28 of the International Convention.

The harbour water boats were cleaned and cement-washed every quarter and inspected by one of the Port Health Officers before use.

A venereal diseases clinic for seamen has been maintained at the port since 1921 and an account of its work appears in Section VI. of this Report.

Minor Ports.—495 steamers and 2,405 sailing vessels called at the fifteen minor ports. 366 of the steamer visits were at Talaimannar in connection with the ferry service to India. All passengers arriving at Talaimannar had passed through Mandapam Quarantine Camp or had been inspected by Medical Officers of the Camp. No passengers are permitted to land at the other small ports in the northern part of the Island and ships visiting these ports work in strict

quarantine. This is a necessary precaution since the shipping is mostly engaged in coastwise traffic with small ports in districts of Southern India where smallpox and cholera are more or less endemic, while a few ships bring rice from Burmese ports.

Mandapam Quarantine Camp.—The depression in trade and the cheapness of foodstuffs in South India contributed to the further decrease in the number of persons who passed through the Camp *en route* for Ceylon. The following are the figures for the last four years:—

Year.	Estate Labourers.	Passengers.	Total.
1927 ..	159,399 ..	60,507 ..	219,906
1928 ..	133,712 ..	66,918 ..	200,630
1929 ..	105,095 ..	70,923 ..	176,018
1930 ..	91,422 ..	62,162 ..	153,584

All estate labourers remain five days in the Camp, where they are disinfected, vaccinated, treated for ankylostomiasis, and subjected to a careful medical inspection. First and second class passengers and their personal servants are medically inspected at the railway station and usually allowed to proceed but are subjected to surveillance for 12 days after arrival in Ceylon. The majority of third class passengers pass through the Camp.

Thirty-one passengers and 34 estate labourers were rejected on account of leprosy and 18 estate labourers were rejected for other diseases, viz., 1 cholera, 1 direct contact of cholera patient, 1 general debility, 4 secondary syphilis, 8 advanced pregnancy, 2 unsound mind, and 1 epilepsy.

The general hospital of the Camp has accommodation for 20 patients and there were 715 admissions of which 30 proved fatal.

The infectious diseases hospital has 12 beds for smallpox and 16 for cholera. Two cases of smallpox and 2 of cholera were admitted during the year and all recovered. Other infectious diseases were also treated, viz., chickenpox 55 cases, measles 35, mumps 18, and leprosy 3.

11,455 persons were treated at the outdoor dispensary of the Camp.

Treatment for ankylostomiasis was given to 80,401 labourers out of 90,931 examined.

41,144 passengers and 87,846 estate labourers were vaccinated against smallpox.

The sanitary condition of the Camp remained excellent throughout the year. The Camp has its own water supply which is carefully protected and subjected to frequent laboratory examinations, its own electric lighting plant, and a water carriage system of drainage and sewage disposal. The food supply and kitchens were carefully supervised and remained satisfactory.

In September a systematic examination for cholera carriers was started in the Camp laboratory since it is important to gain information as to the number of carriers entering Ceylon. By the end of the year from only one case had a true cholera vibrio been recovered but a number of cases gave non-agglutinable vibrios.

Tataparai Quarantine Camp.—52,507 passengers proceeding from India *via* Tuticorin to Colombo passed through the Camp, as against 62,123 in 1929 and 71,239 in 1928. 98 per cent. of the passengers were petty traders and bungalow, garden, and rickshaw coolies, and the majority (41,696) came from the Pinnevelly district where cholera is more or less endemic.

There were 77 rejections—42 for leprosy. 27 convalescing from smallpox, 2 for chickenpox, 3 for measles, 1 for advanced tuberculosis, 1 for mumps, and 1 for severe conjunctivitis.

46,012 passengers were vaccinated, 36,371 at the Camp and 9,641 at Tuticorin.

The site of the Camp was increased by the purchase of 12 acres and now stands at 33.82 acres. There was considerable overcrowding at times, and the buildings, sanitary arrangements, and water supply of the Camp are not satisfactory but improvements are contemplated. The food was of good quality and the Camp was maintained in a clean condition.

Surveillance.—99.82 per cent. of the 55,025 persons from Southern India entering Ceylon under surveillance reported at their destinations and completed the 12 days' period of surveillance. Among these persons one case of smallpox and three of chickenpox were detected during their period of surveillance.

V.—MATERNITY AND CHILD WELFARE.

Infant Mortality.—The following statement gives in tabular form the figures relating to infant deaths and infant mortality rates for 1930, for 1929, and the average for 11 years 1919 to 1929:—

		1930.		1929.		Average. 1919–29.
Infant Deaths—						
Whole Island	..	35,877	..	36,963	..	35,325
Urban areas	..	4,264	..	4,700	..	4,544
Rural areas	..	31,613	..	32,263	..	30,781
Infant Mortality Rates—						
Whole Island	..	175	..	187	..	186
Urban areas	..	183	..	212	..	228
Rural areas	..	174	..	183	..	—
Ceylonese	..	172	..	183	..	—
Indian immigrant	..	194	..	213	..	—
European	..	18	..	14	..	—

Of the 35,877 deaths, convulsions have been responsible for 9,211 or 25.6 per cent. and debility for 7,539 or 21 per cent. As in previous years, these conditions have been the two chief causes of deaths among infants. The decrease in the number of infant deaths by more than one thousand is satisfactory, but the 1930 rate of 175 deaths per 1,000 infants born is still much in excess of the record low rate of 160 in 1927.

Maternal Mortality.—The following table sets out the number of maternal deaths and the maternal death rates for 1930, for 1929, and the average for 11 years 1919 to 1929:—

		1930.		1929.		Average. 1919–29.
Maternal Deaths—						
Whole Island	..	4,381	..	4,031	..	3,664
Urban areas	..	815	..	730	..	540
Rural areas	..	3,566	..	3,301	..	3,237
Maternal Mortality Rates—						
Whole Island	..	21.4	..	20.3	..	19.2
Urban areas	..	34.9	..	32.9	..	26.2
Rural areas	..	19.6	..	18.7	..	18.4

Of the causes of maternal mortality, puerperal convulsions and puerperal septicaemia come first. They accounted for 47.13 per cent. and 35.5 per cent. respectively of the deaths. The increase in the number of deaths of mothers at childbirth by 350 and the fact that the maternal mortality rate was the highest since 1923 are very disappointing, particularly in view of the improved and increased provision of maternity wards in Government hospitals during the past few years and of the greater number of trained midwives employed not only by Government but by Local Authorities and estates. Of the two chief causes mentioned above, puerperal convulsions indicate the necessity for skilled ante-natal examination and care and puerperal septicaemia for a more rigorous control of unqualified midwifery. Where these are provided as in certain of the Health Unit areas there has been a steady decline in the rate of maternal mortality.

Stillbirths.—Stillbirths are registered only in the urban area. During 1930 there were 1,776 stillbirths registered as compared with 1,786 in 1929 and 1,444 the average for 11 years 1919 to 1929. The ratio for 1930 is 7.6 stillbirths to every 100 live births while that for 1929 is 8 and the average for 11 years 1919 to 1929 is 7.

Ante-natal and Baby Clinics.—At the ante-natal clinics held at the De Soysa Lying-in Home 2,252 mothers paid 2,654 visits, as compared with 1,903 mothers and 2,194 visits in 1929. In addition to these clinics 1,547 combined ante-natal and baby clinics were held in various parts of the Island at 40 centres to which visits have been paid as follows:—Expectant mothers 873, infants 13,525, and pre-school children 7,098, as compared with the following figures for 1929:—Clinics 1,067, visits by expectant mothers 596, infants 8,796, and pre-school children 6,943.

Midwifery.—98 trained midwives were provided by Government (66 at hospitals and 32 at Health Units), 67 by Local Authorities and 93 by estates, making a total of 258. There is also about the same number of trained midwives doing private work. The registration of midwives under Ordinance No. 26 of 1927 has been made compulsory so far only in the City of Colombo where the number registered amounts to 155.

Training of midwives continued to be carried out at the De Soysa Lying-in Home, Colombo, as well as at the McLeod Mission Hospital at Inuvil. During 1930, 62 women received training at the De Soysa Lying-in Home, 49 being pupil midwives and 13 trained nurses, as compared with 68 in 1929.

Maternity Beds in Hospitals excluding the Lying-in Home.—Of the 107 Government hospitals with a total of 9,477 beds at the end of 1929, 51 had maternity wards with a total of 296 beds. During 1930, 51 new maternity beds were provided at the hospitals at Kayts (4), Lindula (6), Bogawantalawa (4), Elpitiya (4), Mantota (4), Kegalla (23), Koslanda (4), and Tissamaharama (2), bringing the number of hospitals with maternity wards to 59 and the total number of beds in them to 347. The other hospitals although not provided with maternity wards take maternity cases into their general wards.

Public Health Nursing.—The lack of sufficient Public Health Nursing has continued to be the difficulty in placing child welfare work on a proper basis. During the year there was a change in the policy for the training of these nurses. It was decided to employ only nurses who had already undergone three years' general training and both married and single applicants were eligible for appointment. To qualify themselves for Public Health Nursing these nurses are required to take six months' training in midwifery if they have not already done so and a six months' training in Public Health work. During the year there were 2 trained Public Health Nurses at work and 4 in training.

Voluntary Associations and Child Welfare Work.—According to the way child welfare work is being developed the assistance of voluntary associations continues to be essential.

There are in the Island 23 such associations under the names of Social Service Leagues, Health Leagues, Child Welfare Leagues, &c., actively associated in the work. The total income of 18 of these associations during the year was Rs. 21,142.82, of which Rs. 17,878.52 was expended on Child Welfare work.

VI.—HOSPITALS, DISPENSARIES, AND VENEREAL DISEASES CLINICS.

Hospitals and Dispensaries.

General Remarks.—All parts of the Island are generously provided by the State with hospitals and dispensaries. In and around Colombo are the General Hospital (912 beds), Lying-in Home (82 beds), Eye Hospital (56 beds), Women's Hospital (45 beds), Children's Hospital (82 beds), Female Venereal Diseases Hospital (29 beds), Police Hospital (32 beds), Tuberculosis Hospital (349 beds), Tuberculosis Sanatorium (72 beds), and Infectious Diseases Hospital (168 beds). Elsewhere there are 92 Government hospitals with 6,691 beds and 2 Leper Asylums with accommodation for 684 patients. In addition there are the Prison Hospitals and Lunatic Asylum mentioned in Section VII. The number of hospital beds provided by Government is approximately 2 per 1,000 of population. New hospitals were opened during the course of the year at Tanamalwila, Dambadeniya, Anamaduwa, Kayts, and Madulsima.

The number of central and branch dispensaries and visiting stations maintained by Government decreased from 601 in 1929 to 595 in 1930. In addition to these the following special institutions were maintained for the treatment of out-patients:—King Edward VII. (Memorial) Anti-Tuberculosis Institute, Colombo; Grenier Ear, Nose, and Throat Infirmary, Colombo; Dental Institute, Colombo; and special clinics associated with the Kandy, Galle, Jaffna, Batticaloa, and Badulla hospitals for the treatment of eye diseases.

During the year under review there was an increase in the number of estate hospitals and estate dispensaries maintained by proprietors of estates; 85 hospitals and 706 dispensaries in 1929 increased to 88 and 715 respectively in 1930.

208,464 in-patients with 13,967 deaths, giving a mortality rate of 6.70 per cent., were treated in the various Government hospitals. The figures for the previous year were 210,547, 13,625, and 6.47 respectively. In the Government dispensaries and out-patient departments attached to Government hospitals 3,810,010 patients who paid 5,815,125 visits were treated, as against 3,626,606 and 5,407,588 visits the previous year.

The diseases treated at hospital out-patient departments and dispensaries were as follows:—

I.—Communicable Diseases.

Enteric fever	..	..	638
Fevers of obscure causation	..	..	3,089
Malarial fever	..	..	1,596,439
Cerebral malaria	..	..	135
Malarial cachexia	..	..	125,487
Malarial cirrhosis	..	..	149
Measles	..	..	173
Whooping cough	..	..	1,059
Diphtheria	..	..	14
Influenza	..	..	114,056
Mumps	..	..	395
Dysentery (all forms)	..	..	40,365
Amoebic hepatitis and liver abscess	..	..	108
Leprosy	..	..	22
Erysipelas	..	..	84
Chickenpox	..	..	84
Dengue	..	..	29
Yaws	..	..	23,684
Hydrophobia	..	..	6
Tetanus	..	..	37
Pulmonary tuberculosis..	..	..	2,328
Other tuberculous diseases	..	..	398
Syphilis (all varieties)	..	..	4,820
Soft chancres	..	..	242
Gonorrhoeal complications (arthritis, rheumatism, &c.)	..	..	4,584
Gonorrhoea (acute and chronic)	..	..	12,152
Filarial diseases	..	..	284
Acute rheumatic fever	..	..	1,413
Puerperal fever	..	..	2,857
Other infectious diseases	..	..	5,019

II.—General Diseases.

Malignant tumours—carcinoma, sarcoma	..	115
Non-malignant tumours	..	545
Chronic rheumatism	..	214,558
Arthritis (acute and chronic)	..	7,052
Diabetes mellitus	..	537
Anaemias (of unknown causation)	..	16,431
Goitre	..	1,224
Leukaemias	..	812
Acute poisonings	..	1,250
Other general diseases	..	10,016

III.—Local Diseases.

Diseases of the nervous system	..	25,059
Diseases of the eye	..	67,770
Diseases of the ear	..	34,628
Diseases of the heart and blood vessels	..	5,427
Diseases of the lungs and pleura	..	153,938
Diseases of the gastro-intestinal tract	..	348,042
Diseases of the liver and gall bladder	..	4,952

Diseases of the urinary system	..	..	18,163
Diseases of the generative systems	..	..	26,495
Diseases of the spleen	..	..	8,070
Diseases of the lymphatic system	..	..	5,305
Diseases of the skin and cellular tissues	..	..	148,540
Diseases of the bones and joints	..	..	4,427
Ankylostomiasis	..	..	171,375
Other helminthic diseases	..	..	266,323
Ulcers	..	..	201,944
General injuries	..	..	22,167
Local injuries	..	..	88,294
Other local diseases	..	..	16,401

The following donations were made by the under-mentioned philanthropic gentlemen:—

Mr. C. E. A. Dias of Colpetty presented a maternity clinic of 6 beds to Horana dispensary. This was opened by His Excellency the Governor on January 16, 1930, and named "Lady Stanley Hospital". Mr. H. J. B. Samarasekera of Pussellawa presented a paying ward of 4 beds to the Pussellawa Hospital. This was opened on March 11, 1930. Mr. B. D. S. Abeywickrama, Maha Vidane of Matara, presented a paying ward of 2 beds to the Matara Hospital, which was opened on March 21, 1930. The late Dr. C. A. Hewavitarne of Colpetty, Colombo, presented a children's clinic of 12 beds to Matara Hospital. This was opened by His Excellency the Governor on March 24, 1930. The late Mr. Charles Peiris of Colpetty, Colombo, presented a two-storey ward (for females) of 40 beds to the Kegalla Hospital. This was opened on April 1, 1930.

Report on Colombo Hospitals.

A brief summary of the work done in the chief Colombo hospitals is given below:—

General Hospital, Colombo.—The number of patients treated in the hospital during 1930 was 19,175 (1,490 paying and 17,685 non-paying patients) as compared with 19,164 (1,778 paying and 17,387 non-paying) in the previous year. Of these 19,175 cases, 10,897 were medical and 8,278 were surgical, as against 14,383 medical and 4,781 surgical cases in 1929.

Of the total cases treated there were 2,304 deaths, as against 2,260 in 1929. The daily average sick in hospital was 924.88.

The maximum and minimum number of patients in hospital on any one day during the year was as under:—

		Maximum.		Minimum.
Paying section	..	94 on 2. 6. 30	..	46 on 26. 12. 30
Non-paying section	..	960 on 27. 6. 30	..	745 on 16. 9. 30

The number of operations performed was 2,641, of which 2,400 were performed in the hospital and 241 (minor operations) at the Out-patients' Department as against a total of 2,809 (2,380 in hospital and 429 on out-patients) in the previous year.

The total number of patients treated at the Out-patients' Department amounted to 29,103, as compared with 29,666 in 1929. The number of visits paid by patients was 180,040 with a daily average of 493.

Buildings.—The first block of the hospital reconstruction scheme was completed and handed over in 1930 and is now in use. It is a three-storey building with two wards of 20 beds on each floor and a number of single and two-bed wards. It includes also a ward laboratory, nurses' duty rooms, ward kitchens, convalescent patients' dining rooms, and electric lift, while the sanitary arrangements are much in advance of those of other hospitals in Ceylon.

Pathological Department.—The staff consists of a full-time Pathologist and two qualified assistants. The following number of specimens was examined and reported upon:—

Urines	..	..	16,243
Faeces	..	..	8,666
Gastric contents	..	..	440
Sputa	..	..	2,457
Bloods	..	..	5,704
Cerebro spinal fluids	..	..	220
Ascitis and pleural fluids	..	..	198
Smears	..	..	632
Tissue Sections, General Hospital	..	..	371
Tissue Sections, Outstation Hospitals	..	..	122
Tissue Sections, Post-mortem room	..	..	200
Total ..			35,253

The total number of specimens examined during the year 1930 was 35,253, as against 32,893 in 1929 and 30,292 in 1928.

X'Ray Department.—2,852 patients in the non-paying section and 374 patients in the paying section, making a total of 3,226 patients, underwent X'ray examination, as against a total of 2,874 in 1929. In the electro-therapeutic section 5,111 sittings were given to non-paying patients (including patients from the 2nd class paying wards from whom no charges are recovered) and 448 sittings to paying patients, making a total of 5,559, as compared with 6,183 the previous year.

155 cases had radium treatment for different diseases, chiefly cancer, as compared with 103 cases in 1929.

Dental Institute, Colombo.—This institute is in the fourth year of its existence and has proved to be of immense benefit to the large number of poor patients who attend for treatment. The professional staff consists of one qualified Dental Surgeon, two unqualified Assistants, a Ceylonese Matron, and a Nurse.

14,815 patients were treated during the year under review, as against 13,755 in 1929. The total number of visits made by patients was 28,635.

The number of patients was made up as follows:—

Patients sent from hospital wards	..	..	421
Children attending the school clinic	..	..	2,060
Other patients	..	..	12,334
			14,815

The following treatments were given:—

Extractions	..	..	8,854
Cleaning and filling	..	..	5,323
Alveolar abscess	..	..	217
41 cases were operated on at the Institute.			

De Soysa Lying-in Home.—The urgency for increased accommodation to enable the work to be carried out on improved lines is once more emphasized. The present position in this respect is explained under Section X., Building Requirements.

The number of cases under treatment in 1930 was 5,410, as against 5,123 in the previous year and 5,125 in 1928. The daily average number of beds occupied was 112.45 and the mortality rate was 2.03, as compared with 108.94 and 3.14 respectively the previous year. There were 110 maternal deaths and of these 45 were due to accidents of childbirth, 15 to puerperal causes, and 50 to general causes, such as ankylostomiasis, pneumonia, heart failure, toxæmia, &c.

The number of live births was 3,600. Of these infants, 3,363 left the hospital alive while 237 died after delivery, as against 2,847 and 201 respectively in 1929. 565 obstetric operations were performed during the year, necessitating the use of forceps in 234 cases, craniotomy in 42 cases, decapitation in 1 case, internal (69) and external (3) podalic version in 72 cases, curettage and evacuation of uterus in 79 cases, manual extraction of placenta in 27 cases, and other minor operations in 110 cases. Labour was classified as normal in 4,560 cases. In 49 cases of

placenta praevia 16 infants were born alive, 30 were born dead, and 3 were undelivered; 44 mothers recovered and 5 died. In 134 cases of puerperal eclampsia 120 mothers recovered, 10 left hospital before delivery, and 4 died; 55 infants were born alive, 53 were born dead, and 26 were not delivered.

This institution continued to be the chief training ground for midwives for the whole Island. The professional staff consisted of one Medical Superintendent, one Assistant Obstetrician, and three qualified House Officers.

The Victoria Memorial Eye Hospital and the Grenier Ear, Nose, and Throat Infirmary.—There are 7 beds and 1 cot in the paying section and 43 beds and 5 cots in the non-paying section of this hospital.

27,364 out-patients were treated during the year, as against 27,922 out-patients in 1929. Of the cases treated 21,867 were eye, 4,081 ear, 448 nose, and 968 throat cases.

There were 78 in-patients remaining in hospital at the beginning of the year and 1,560 patients were admitted during the year as compared with 78 and 1,765 respectively in the previous year. Of these 1,558 were discharged with no deaths.

The total number of ophthalmic operations performed on in-patients during the year was 567 and on out-patients 2,518, the corresponding figures for the previous year being 626 and 2,919 respectively. 375 individual cases of cataract were operated on during the year. 1,628 refraction cases were attended to in 1930 as against 2,118 in 1929.

Glaucosan was tried in the treatment of glaucoma. The Bailliarts' Tonometer was used for testing the tension of eyes. Radium was first used for eye cases this year. An apparatus for the extraction of cataracts in capsule was supplied during the year.

The School Clinics continued to be well attended. 753 eye cases and 324 ear, throat, and nose cases (total visits 2,475) received treatment.

The Lady Havelock Hospital for Women and Lady Ridgeway Hospital for Children.—The total number of patients admitted during the year was 3,139 and with 127 patients remaining from 1929 3,266 patients (women 1,420, children 1,846) were treated in 1930, as against 3,463, 117, and 3,580 patients respectively in 1929.

The daily average sick was 126.8, as against 127.9 in 1929 and 124.6 in 1928. The number of paying patients treated was 143, as against 158 in 1929.

The total number of deaths was 564, viz., 94 women and 470 children, showing a mortality rate of 6.6 per cent. for women and 25.4 per cent. for children. The high death rate in the case of children was due to the fact that many children were brought to the hospital in a moribund condition and died within a few hours of admission.

The number of surgical operations performed was 742. Of these 566 were major and 176 minor operations. The operation mortality rate was 5.4 per cent., as against 3.4 in 1929.

In the training school for nurses there were 61 pupils of whom 20 were first year pupils. The professional staff of this hospital consists of the qualified Lady Doctor-in-Charge and two qualified Lady Assistant Medical Officers.

Female Venereal Diseases Hospital.—The total number of patients admitted during the year was 586 and with 19 patients remaining from 1929. 605 patients were treated in 1930, as against 694 in 1929. The daily average of patients was 26.64 as against 24.22 in 1929. The total number of deaths was 7 showing a mortality rate of 1.1 per cent. The principal diseases treated were syphilis, 142 cases with 3 deaths, and gonorrhoea, 267 cases with 1 death.

Usually female cases of syphilis and gonorrhoea in the acute stage are treated in this hospital and when hospital treatment is not necessary they attend the clinic as out-patients (*vide* report under Venereal Diseases Clinic, page 51), for continuation of treatment.

During the year 30,414 patients who paid 54,442 visits were treated at the out-patients department of this hospital. Malaria, influenza, venereal, digestive, skin, and rheumatic diseases were the most prevalent ailments treated.

The Infectious Diseases Hospital (Angoda), Colombo.—During the year under review, there was no outbreak of cholera or plague, but an outbreak of smallpox occurred in the Lunatic Asylum, Angoda, among the patients and staff and 4 cases of imported smallpox were admitted. Chickenpox is endemic in Ceylon and cases occurred throughout the year but not in an epidemic form. Mumps was more prevalent than measles and an outbreak of enteric fever occurred after the great flood in May, 1930.

There remained 43 patients in hospital at the end of 1929 and 1,449 patients were admitted during the year making the total treated 1,492, as against 1,982 during the previous year. Of these 134 cases proved fatal, giving a mortality of 5.95 per cent., as against 5.04 per cent. during the previous year.

The following are some of the infectious diseases treated and the number of deaths in 1930:—

			Number treated.	Deaths.
Smallpox	..	..	21	2
Enteric fever	..	..	303	81
Measles	..	..	43	—
Whooping cough	..	..	14	1
Diphtheria	..	..	16	5
Mumps	..	..	99	—
Plague	..	..	12	11
Chickenpox	..	..	668	2

Sixty-six plague contacts and 67 smallpox contacts were kept under observation while 15 smallpox contacts were segregated.

Report on Outstation Hospitals.

Of the provincial hospitals those of Kandy and Galle are the largest and most important.

Kandy Hospital.—There are 333 beds and the medical staff consists of a Superintendent, Physician, Surgeon, Ophthalmic Surgeon, and 4 House Officers. The hospital is a nurses' training school and 83 pupils were under training during the year. Both the wards and nurses' quarters were much overcrowded.

There were 9,314 admissions in 1930, as compared with 10,654 in 1929. Of these 8,620 were cured and discharged, 694 died; the corresponding figures for 1929 were 9,945 and 709 respectively. The daily average sick in hospital was 392.45, as against 448.61 in 1929; the percentage of deaths to total treated was 7.12, as against 6.79 in 1929.

The following table gives the principal diseases treated and the number of deaths:—

			Admission.	Deaths.
Enteric fever	..	..	56	20
Malaria	..	..	1,260	9
Dysentery	..	..	117	23
Parangi	..	..	27	—
Diphtheria	..	..	9	—
Leprosy	..	..	23	1
Ankylostomiasis	..	..	608	99
Pneumonia	..	..	150	60

Operations.—There were 435 operations performed, 236 major and 199 minor with 21 and no deaths respectively.

The Eye Institute is becoming a popular institution and the Eye Surgeon is kept fully occupied till 2 or 3 p.m. every day. Two wards are allotted for eye cases and are always overcrowded. The number of eye operations performed was 714.

Galle Hospital.—This hospital is situated in Mahamodara, a suburb of Galle, and is near the sea. It has at present accommodation for 250 patients.

The staff consists of a Medical Superintendent, Visiting Physician, Visiting Surgeon, Eye Surgeon, and 3 House Officers. This hospital is also a training centre for nurses with a European Matron and two Nursing Sisters.

The total number of in-patients treated during the year was 7,770 with a daily average of 215.85. Out of these 466 died giving a percentage of 5.98 deaths.

The following were the chief diseases treated:—Dysentery 122 cases with 18 deaths; pulmonary tuberculosis 123 cases with 16 deaths; typhoid fever 272 cases with 72 deaths; malaria fever 848 cases with 18 deaths. There were 457 surgical operations performed during 1930.

In the casualty room 271 cases were attended to and 645 injections were given for parangi and syphilis. In the laboratory 9,041 specimens were examined; of these 48 were blood and 292 sputa. In the Eye Institute 6,242 cases (19,129 visits) were treated, and 562 minor and 79 major operations were carried out.

Institutions for Tuberculosis.

There are four special institutions for tuberculosis in Ceylon, viz., the King Edward VII. Anti-Tuberculosis Institute, Colombo, the Ragama Hospital, the King Edward VII. Sanatorium at Kandana, and the King Edward VII. Sanatorium at Kankesanturai for early cases.

The Institute in Colombo and the two sanatoria were built and equipped from the King Edward VII. Memorial Anti-Tuberculosis Fund, but are maintained by Government.

The Institute is situated in a central part of Colombo and in addition to the usual clinic rooms has X'ray apparatus, a laboratory, and artificial sunlight apparatus, and serves as a centre for expert diagnosis and treatment. There are no beds at the Institute, but patients requiring indoor treatment are sent to Kandana or Ragama as accommodation permits. The nurses make a number of visits to patients' homes and are expected to arrange for contacts to attend at the Institute for medical examination. The X'ray installation and artificial sunlight apparatus were unfortunately out of order during the year. 3,722 out-patients who paid 12,598 visits were treated at the Institute.

In order to popularize the Institute patients suffering from lung conditions other than tuberculosis were treated and nearly half the attendances were by such patients.

The hospital for tuberculosis at Ragama is 12 miles away from Colombo and is easily accessible by rail and road. It contains 349 beds and is intended for the treatment of advanced or moderately advanced cases of pulmonary tuberculosis.

The following are the statistics for the year:—

The number of patients remaining at the end of 1929 was 345 and the number admitted during 1930 was 858. There were 310 deaths (of which 42 died within two weeks of admission) showing a percentage of 25.83 to the total number treated. 575 patients were discharged, of whom 59 left hospital relieved within 2 weeks, 57 were transferred to Kandana Sanatorium, and 2 left cured. The number remaining in hospital on December 31, 1930, was 318, which includes 76 patients remaining for over one year. The daily average number of patients in the hospital was 344.

Usually the cases admitted are in the 3rd stage of the disease (according to Terban Gerhardt's classification) and only rarely are 2nd stage patients seen. The average case shows bilateral involvement below the 4th rib, frequently with localized excavations.

Treatment is based on—

- (1) Rest cure.
- (2) Graduated exercises.
- (3) Symptomatic treatment.
- (4) (a) Artificial pneumothorax.
(b) Artificial light.
(c) Gold preparations.
- (5) Education.

The staff is gradually being trained to maintain discipline among the patients with regard to *rest and graduated exercises*. The patients are given regular talks about the benefit of these methods of treatment. Besides walks, patients have regular breathing exercises, and odd jobs in the wards and gardening.

Seven patients received artificial pneumothorax treatment. In one case the disease was arrested and he left for India; another is doing very well; three cases are being watched; and two cases, who were hopelessly ill, died.

Those requiring artificial light treatment are sent to the General Hospital, Colombo. Of gold preparations, Solganal and Lopion have been used but no encouraging results were obtained.

Symptomatic treatment forms a large part of the work. Only about 20 per cent. of the patients are fit for outdoor exercises, the remaining 80 per cent. being on absolute rest or the 1st and 2nd stages of graduated labour.

Patients are given regular talks on—

- (1) How to avoid spreading tuberculosis.
- (2) How to avoid getting it.
- (3) How to preserve children from it.
- (4) The earliest suspicious signs.
- (5) When you go home from hospital.

The water supply was hopelessly inadequate; the patients are unable to have regular baths; the shower baths cannot be used; and the dhoby is very greatly handicapped. The quality of water was much below standard.

A convent chapel was completed and opened for use on July 6, 1930. Attendants' quarters for six males and six females were completed and occupied on January 1, 1930. A fence round the hospital boundary was constructed and consists of concrete posts, barbed wire, and iron gates.

General Hospital, Tuberculosis Wards.—The number of patients treated during the year was 561 and there were 213 deaths. These wards may be considered at present as an annexe of the Ragama Tuberculosis Hospital. They are generally crowded with advanced cases of pulmonary tuberculosis, the majority of whom remain in the hospital till they die. The position is an unsatisfactory one as the cases are not under the care of a staff specially trained in tuberculosis work and the wards were not built or equipped as tuberculosis wards. They are a makeshift till proper accommodation is available for the large number of chronic cases who are unable to get accommodation at the Ragama hospital. The treatment of these cases is mainly symptomatic.

The King Edward VII. Sanatorium at Kandana is 14 miles from Colombo and has accommodation for 72 patients.

The number of patients remaining at the end of 1929 was 65 and the number admitted during 1930 was 166 (155 new admissions and 11 re-admissions). There was only one death. In 127 (74.70 per cent.) of the 170 patients discharged the disease was arrested, 28 (16.47 per cent.) were much improved, 4 (2.35 per cent.) were improved, 8 were transferred to Ragama, and 3 left against advice before completing one month's stay. The number remaining in the sanatorium on December 31, 1930, was 60 and the daily average number of patients was 67.41.

The usual principles of sanatorium regime are applied to patients, viz.—

- (1) Rest—mental and physical,
- (2) Graduated exercises,
- (3) Routine, discipline, and education,
- (4) Correct feeding

supplemented by such therapeutic measures as are required.

The King Edward VII. Sanatorium at Kankasanturai on the coast of the Northern Province is a new building erected at the expense of the King Edward VII. Memorial Fund. It was completed at the end of the year and has not yet been opened. Accommodation is provided for 44 patients. The cost of the buildings has been Rs. 102,575.

Medical Institutions aided by Government.

The following institutions were aided by Government during the year:—

- (1) The Victoria Home for Incurables.
- (2) Wiseman Hospital, Welimada.

- (3) McLeod Hospital, Inuvil.
- (4) Green Hospital, Manipay.
- (5) Jevon's Dispensary, Puttur.
- (6) The Wesleyan Medical Mission Hospital, Batticaloa.
- (7) The Wesleyan Medical Mission Branch Dispensary at Kattankudi.
- (8) The Denepitiya Medical Mission Hospital, Southern Province.

Nos. (1) and (8) are for males and females: Nos. (2) to (6) are for females and children only.

Venereal Diseases Clinics.

There are 3 Venereal Diseases Clinics in the town of Colombo, viz., 1 at the General Hospital (out-patient), 1 at the Port Surgeon's Office (out-patient), and the third at the Female Branch Hospital with accommodation for both in-patients and out-patients.

Venereal Diseases Clinic, General Hospital, Colombo.—The following table gives comparative figures of the cases treated at the clinic for the past three years:—

Cases.	1928.	1929.	1930.
Syphilis ..	852	840	731
Soft sores ..	37	47	91
Gonorrhoea ..	619	825	653
Yaws ..	7	64	29

Port Venereal Clinic for Seamen.—The clinic is held in a special room at the Port Surgeon's Office.

143 persons attended the clinic last year. 77 cases of syphilis and 66 cases of gonorrhoea were treated. Intravenous injections of Neo-Salvarsan were given in cases of syphilis. Treatment is free.

After injections are given a card is handed to the patient with an entry showing the date of the injection and the dosage, and the patient is advised to continue treatment at the next port of call.

The cases are diagnosed by clinical examination only, since there are no facilities for bacteriological examination. Occasionally smears are sent to the Bacteriological Institute.

Venereal Diseases Clinic at the Female Branch Hospital.—The cases treated in the clinic for the past three years were as follows:—

Cases.	1928.	1929.	1930.
Syphilis ..	242	242	366
Gonorrhoea ..	536	464	469
Yaws ..	—	—	12
Other venereal diseases ..	7	—	49
	<hr/> 785	<hr/> 706	<hr/> 896

The clinic is held on two evenings a week—Tuesdays and Fridays. Most of the cases attending the clinic are married women and many of them are cases of chronic gonorrhoeal infection. The existence of the clinic is well known among the hospital class of patients who have no objection to injections or any line of treatment and who are on the whole very appreciative and willing to carry out instructions.

Besides the particulars given in respect of the three clinics, 7,035 in-patients (with 163 deaths) in the various hospitals and 21,798 out-patients at dispensaries and out-patients' departments of hospitals in the Island were treated for venereal diseases during the year, as against 6,997, 105, 22,072, respectively, in 1929.

Hospital Returns, &c.—Charts and returns of hospitals will be found at the end of this Report.

VII.—PRISONS AND ASYLUMS.

PRISONS.

During the year 1930, eleven prisons were maintained by Government in the following places:—Central prisons at Welikada (Colombo), Bogambara (Kandy), Mahara (14 miles east of Colombo), and Jaffna; local prisons at Anuradhapura, Badulla, Batticaloa, Galle, and Negombo; remand prisons at Hulftsdorp (Colombo) and Kandy (old prison).

On December 31, 1929, there was in all the prisons a total of 3,014 convicted prisoners (2,957 males and 57 females). During the year under review 20,091 males and 431 females were admitted and 19,727 males and 426 females were discharged. Fifty-eight male and 1 female prisoner died. On December 31, 1930, 3,263 male and 61 female convicted prisoners remained in all the prisons.

The number of hospitals exclusively maintained for prisoners remained unchanged. The following are the ten hospitals so maintained:—

			Beds.
The Prison Hospital, Welikada	..	..	180
Female Jail Hospital, Welikada	..	..	12
The Mahara Prison Hospital	..	..	53
The Negombo Prison Hospital	..	..	16
The Bogambara (Kandy) Prison Hospital	..	..	35
The Jaffna Prison Hospital	..	..	12
The Galle Prison Hospital	..	..	12
The Anuradhapura Prison Hospital	..	..	12
The Badulla Prison Hospital	..	..	4
The Batticaloa Prison Hospital	..	..	5
Total ..			341

On the whole the health of the prisoners in all prisons was satisfactory. In Jaffna Prison, dysentery, both amoebic and bacillary, was prevalent during the year and eleven cases of enteric were treated in hospital. At Welikada, dysentery and diarrhoea were the most prevalent diseases and caused 13 and 7 deaths respectively. Pneumonia caused 12 deaths in the same prison and typhoid fever 9 deaths. In the latter part of the year steps were taken to obtain a scientific diagnosis in all bowel cases, and anti-typhoid inoculation of all prisoners was also begun. At Mahara Prison dysentery was the chief disease, and the Medical Officer made recommendations with a view to removing the probable causes. At Negombo the prevalent diseases were malaria and dysentery.

In addition to the anti-typhoid inoculations given at Welikada, such inoculations were also given to the prisoners in Mahara and Jaffna prisons.

All new admissions to the Mahara jail, 894 cases in all, 635 prisoners in Galle jail, and all the prisoners in Batticaloa jail who needed it, were given treatment for ankylostomiasis during the year.

The sanitary condition of the prisons was good on the whole. The Medical Officer, Mahara Prison, reports that a new building programme has been sanctioned which will result in an improvement in the sanitary condition of that prison. During the year the more urgent repairs to drains, &c., and the fly-proofing of the kitchen and the latrines were carried out. The Senior Medical Officer, Prisons, reports that the conditions that prevail at Hulftsdorp remand jail are very unsatisfactory, chiefly because of overcrowding and unsatisfactory buildings, and the health of the prisoners there is poor. He points out that the situation is serious and steps should be taken at once to improve it.

The following is a brief statement concerning each prison:—

Name of Prison.	Daily Average in Prison.	Daily Average Sick in Hospital.	Total Number of In- patients treated.	Total Number of Out- patients treated.	Total Number of Deaths.	Death Rate per Cent. of In- patients in Hospital.	Chief Diseases treated (for meaning of figures, please see Key* below).
Prison Hospital, Welikada ..	1,200.57 ..	99.3 ..	2,987 ..	12,015 ..	55 ..	1.84 ..	1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, and 16
Mahara ..	759.93 ..	16.10 ..	546 ..	1,106 ..	9 ..	1.65 ..	1, 3, 9, 12, and 16
Bogambara ..	469.74 ..	11.64 ..	587 ..	9,093 ..	— ..	— ..	2, 3, 5, 8, 9, 10, and 15
Jaffna ..	341.56 ..	19.92 ..	697 ..	1,711 ..	2 ..	.28 ..	2 and 3
Negombo ..	120.61 ..	8.90 ..	210 ..	1,672 ..	8 ..	3.80 ..	1 and 3
Galle ..	65.83 ..	2.51 ..	147 ..	978 ..	— ..	— ..	1, 7, and 9
Anuradhapura ..	123.83 ..	3.69 ..	160 ..	326 ..	3 ..	1.76 ..	1 and 3
Badulla ..	33.00 ..	.10 ..	6 ..	85 ..	— ..	— ..	1
Batticaloa ..	48.05 ..	1.5 ..	71 ..	— ..	— ..	— ..	1, 3, 5, and 6
Total ..	3,163.12	163.66	5,411	26,986	77	1.42	

* Key referred to:—

1. Malaria	5. Influenza	9. Chickenpox	13. Abscess
2. Diarrhoea	6. Pneumonia	10. Skin diseases	14. Pulmonary tuberculosis
3. Dysentery	7. Enteritis	11. Enteric	15. Rheumatism
4. Eye diseases	8. Conjunctivitis	12. Mumps	16. Other diseases

ASYLUMS.

(a) *The Lunatic Asylum and House of Observation, Angoda.*

There is one Lunatic Asylum in the Island, situated at Angoda, about 6 miles from Colombo. The Asylum and the House of Observation have accommodation for 1,830 inmates but during 1930 the average daily number was 2,479. The main buildings consist of six three-storey blocks containing altogether eighteen large wards each designed to hold 96 persons. There is also a block of 102 cells in which noisy patients can be locked up. There are no paying wards for better class patients and no facilities for modern treatment. The state of overcrowding on the male side was extremely bad throughout the year and is likely to get worse since the number of persons admitted exceeds the number of those who die or are discharged by more than 200 a year. The remedy lies not so much in building additional accommodation as in limiting admission to the Asylum to suitable cases that cannot be cared for in their own homes; but such a change would necessitate an alteration in the procedure under Ordinance No. 1 of 1873.

Asylum.—The year opened with 1,461 males and 767 females. During the year 692 males and 310 females were admitted, as against 634 males and 299 females in 1929. The total number treated for the year was 2,153 males and 1,077 females against 1,972 males and 967 females in 1929. During the year 371 males and 119 females were discharged, compared with 340 males and 112 females in 1929. Of these, 216 males and 64 females were recoveries, giving a rate of 31.21 per cent. for males and 20.64 per cent. for females on the admissions, as against 25.86 per cent. and 18.06 per cent. respectively for the previous year. There were 194 deaths among males and 121 among females, compared with 171 males and 88 females respectively in 1929. The percentage of deaths to the total number treated is 9.01 for males and 11.24 for females, as against 8.67 and 9.1 respectively for males and females in the year 1929. The annual death rate based on the average daily number of inmates was 123 for males and 156 for females.

The largest number simultaneously resident in the Asylum was 2,430, compared with 2,239 in 1929 and 2,013 in the year 1928; and the lowest number was 2,220, compared with 1,994 in 1929 and 1,718 in the year 1928. The daily average was 1,576 males and 774 females.

House of Observation.—The year opened with 115 males and 67 females, as against 84 males and 51 females in 1929. These figures are misleading because cases that have been adjudicated upon are not transferred to the Asylum owing to delay in the receipt of the necessary orders. During the year 1,125 males (1,189 cases) and 499 females (524 cases) were admitted, compared with 1,118 males (1,217 cases) and 527 females (573 cases) in 1929. Of the persons observed 562 males and 247 females were transferred to the Asylum, compared with 534 males and 258 females in 1929; 577 males and 248 females were discharged (526 males and 235 females in 1929); 23 males and 26 females died, compared with 27 males and 18 females in 1929. There were in all 49 deaths in the House of Observation in 1930, compared with 45 deaths in 1929.

There were 78 males and 45 females in the House of Observation at the end of the year.

The average number resident was 94.74 for males (86.53 in 1929 and 89.87 in 1928) and 43.88 for females (49.10 in 1929 and 48.48 in 1928).

Court.—A court for the disposal of lunacy cases was established at the Asylum on January 16, 1930, and sits every Thursday. It has been a great benefit and convenience to the patients and to the staff and has resulted in a saving of Government money.

Infectious Diseases.—The following table shows the number of cases of infectious diseases occurring during 1929 and 1930:—

	Inmates.				Attendants.			
	1929.		1930.		1929.		1930.	
	M.	F.	M.	F.	M.	F.	M.	F.
Dysentery ..	236..	181..	209..	155..	13..	2..	10..	4
Chickenpox ..	334..	69..	24..	34..	54..	13..	1..	8
Pulmonary tuberculosis..	73..	61..	88..	47..	— ..	— ..	— ..	—
Influenza ..	22..	17..	30..	35..	1..	2..	6..	9
Erysipelas ..	— ..	3..	2..	1..	— ..	— ..	— ..	—
Enteric fever ..	2..	— ..	3..	4..	— ..	— ..	— ..	—
Smallpox ..	— ..	— ..	13..	— ..	— ..	— ..	11..	—
Leprosy ..	— ..	— ..	1..	— ..	— ..	— ..	— ..	—
Mumps ..	— ..	— ..	— ..	20..	— ..	— ..	— ..	2

Smallpox.—An epidemic of smallpox broke out during the early part of the year. The outbreak was entirely confined to the staff and inmates of the male section of the Asylum, the staff suffering much more severely in proportion to their numbers than did the patients. The total number of cases was 24 which included 1 Medical Officer, 10 attendants, and 13 patients. The source of infection still remains uncertain.

Dysentery and Pulmonary Tuberculosis.—Of the 315 deaths which occurred in the Asylum, 91 were due to dysentery and 76 to pulmonary tuberculosis. The prevalence of these two diseases must be attributed in no small measure to the state of overcrowding.

Accidents.—The number of cases of injury to patients by themselves was 68, by other patients 29, and by attendants nil.

Restraint and Seclusion.—There have been no cases of restraint and seclusion during the year under review.

Occupation and Amusements.—The male patients were employed mostly in agricultural work and in maintaining the Asylum grounds in good order. They prepared the site for the Assistant Medical Superintendent's new bungalow, planted many fruit trees, cleared 5 acres of swampy ground, and made it into paddy land. The female patients made uniforms for the staff and other articles for Asylum use.

Games and sports were carried on as usual. There are three tennis and two volley ball courts which were largely used by the patients and attendants.

Newspapers.—Newspapers and magazines were supplied by Government for the staff and inmates.

Laboratory.—A laboratory which has been a longfelt want was started in February, 1930. With the present equipment it is only possible to do the simple laboratory examinations of blood, sputum, faeces, and urine.

(b) *Leper Asylums.*

There are two Leper Asylums in the Island, one at Hendala, 10 miles from Colombo, and the other on the Island of Mantivu, 3 miles from Batticaloa in the Eastern Province.

Hendala Leper Hospital.—The staff consists of a Medical Superintendent, 2 Assistant Medical Officers, 2 Apothecaries, a Steward-Clerk, a Mother Superior and 12 Religious Sisters, 2 overseers, 46 male attendants, 9 female attendants, an office peon, a gatekeeper, a dhoby, 4 cooks, and 43 coolies.

The statistics of the hospital are given below :—

	Mixed Races.		Indians.		Total.
	Males.	Females.	Males.	Females.	
Remaining on December 31, 1929 ..	403	111	70	15	599
Admitted during 1930 ..	111	22	42	4	179
Discharged during 1930 ..	48	15	35	7	105
Died during 1930 ..	62	9	4	1	76
Remaining on December 31, 1930 ..	404	109	73	11	597

Of the 179 admissions, 135 were new cases and 44 were re-admissions. Amongst the new admissions, 94 were Ceylonese and 41 were Indian immigrants and represented the following types:—

Neural ..	21
Cutaneous..	114
Mixed ..	—

The new admissions were from the following provinces:—

	Ceylonese.		Indians.		Total.		Grand Total.
	M.	F.	M.	F.	M.	F.	
Western ..	45	7	11	1	56	8	64
Southern ..	17	6	1	—	18	6	24
Central ..	1	1	15	1	16	2	18
Sabaragamuwa ..	10	3	7	2	17	5	22
Northern ..	1	—	—	—	1	—	1
North-Western ..	—	—	1	—	1	—	1
North-Central ..	—	—	—	—	—	—	—
Eastern ..	1	—	—	—	1	—	1
Uva ..	1	1	2	—	3	1	4
	76	18	37	4	113	22	135

From the above admissions it will be seen that about 70 per cent. were Ceylonese and 30 per cent. Indian immigrants.

Of the 105 patients discharged, 59 were discharged as non-infective after 3 consecutive bacteriological examinations, 14 were repatriated to India, and 14 were transferred to Mantivu Asylum.

Deaths.—The number of deaths during the year was 76—66 males and 10 females. The percentage of deaths to total treated was 9.79.

The School.—The school was established in 1920. The number on the roll is 80 with an average attendance of 48. English is taught up to the 5th Standard, Tamil to the 4th, and Sinhalese to the 6th. During the year the school was examined by the Government Inspector of Schools who reported favourably on its work.

The General Condition of the Patients.—Special attention is given to exercise and good food, which are two of the most important adjuncts to treatment. Patients are encouraged to do some manual work. There are fitters, carpenters, masons, tailors, and shoemakers. Some patients make ornamental flower pots

out of cement and sand; most of these pots are sold and the patients derive some pecuniary benefit. Patients trained as barbers work among the patients and receive a small sum from the Government for work done for the Asylum. There are some who do vegetable gardening and others occupy their time in flower gardening. However, the patients who work are only a minority when compared with the large number who lead a more or less lazy life.

Special Treatment of Leprosy.—During the year 1930 the drug E. C. C. O. was largely used. The drug was injected intra-muscularly usually into the gluteal or deltoid muscles. The injections were given twice a week. The initial dose was $\frac{1}{2}$ c.c., increasing by $\frac{1}{2}$ c.c. each time to a maximum dose of 5 c.c. Occasionally coughing, dizziness, and tightness of the chest followed the injections but these symptoms disappeared in a few days under symptomatic treatment. On two occasions an abscess followed the injections and had to be lanced.

Of the 600 inmates in this institution only 278 males and 88 females volunteered for treatment during the year. The table below shows the progress of treatment:—

No. of Injections.		No. of Patients.		Marked Improve-ment.		Slight Improve-ment.		No Improve-ment.	
Males:—									
Over 50	34	..	20	..	10	..	4
25-50	76	..	10	..	40	..	26
1-24	168	..	5	..	57	..	106
Females:—									
Over 50	3	..	1	..	1	..	1
25-50	30	..	9	..	11	..	10
1-24	55	..	—	..	11	..	44
Total		..	366		45		130		191

The patients have not been regular in coming for injections, but they seem to be taking an interest in the treatment which is a hopeful sign. There has been an increase of patients receiving injections as compared with last year figures.

Appreciable improvements were also noted in early cases and in young individuals. Our results would be more encouraging but for the fact that most cases are admitted to this institution after they have progressed for many years.

Fifty-nine were discharged on parole after being examined bacteriologically three times with negative results. Of the 70 discharged in 1929, 44 have returned with a fresh outbreak of ulcers.

Mantivu Leper Asylum.—The institution which has been in existence only ten years is situated on an island of about 160 acres in a large lagoon near Batticaloa. Male patients are housed in twenty-four two-roomed cottages each with its own kitchen, and in a number of hospital wards. The female patients all live under hospital conditions in wards. There is accommodation for 176 patients. Although it was originally intended that the institution should be conducted as a leper colony, a large staff of attendants, garden coolies, &c., is maintained and little attempt so far has been made to encourage the patients to engage in useful work and to become to some extent self-supporting.

At the end of 1929 there were 144 lepers (109 males and 35 females) remaining in the Asylum. There were 44 admissions (38 males and 6 females) during 1930, and 7 cases (5 males and 2 females) were discharged. There were 18 deaths (14 males and 4 females) and the percentage of deaths to total treated was 9.57.

Treatment.—About half the patients only volunteer for treatment with E. C. C. O. injections and about 15 per cent. of those who undergo this form of treatment show definite improvement.

VIII.—METEOROLOGY.

The following report was prepared by the Superintendent, Colombo Observatory :—

Rainfall.—The chief features of the year were the widespread depressional rain that occurred in May and October and to a less extent in November, and the marked deficits that occurred in the middle of the south-west monsoon and in December.

The highest rainfall total in 1930 was 238.39 in. at Carney. Ingoya came next with 234.78, while Kenilworth, Maliboda, and Watawala were all within an inch of 224. The highest numerical average is Ingoya's 235.27, but as this only rests on 8 years' figures, Carney's average of 231.25 for 17 years and Padupola's 219.03 for 60 years are more significant. At the other extreme, Yala 35.47 and Mannar (waterworks) 36.40, were the lowest totals. Marichchukkaddi recorded 37.95 in 1930, but still has the lowest average, 34.96. Other low averages are Mannar (waterworks), 37.35, and Pomparippu, Yala, Hambantota, and Mannar Kachcheri, all between 38 and 39.

Temperature.—The stations with the highest and lowest mean shade temperature for 1930 were Mannar with 82.2° F. and Nuwara Eliya with 59.5° F. The figures for Colombo and Kandy were 80.5° F. and 76.9° F., respectively. The highest shade temperature in air recorded during the year was 98.0° F. at Batticaloa on August 5, the highest on record is 103.7° F. at Trincomalee on May 12, 1890. The lowest this year was 29.7° F. at Nuwara Eliya on February 20, at which station 27.1° F. was recorded in 1914. The highest shade temperature in Colombo in 1930 was 93.0° F. on February 26, and the lowest 65.0° F. on December 21, the mean daily range for 1930, *i.e.*, the difference between the mean of the maximum and the mean of the minimum, was highest at Nuwara Eliya, 18.8° F., and lowest at Jaffna, 8.9° F. At Colombo and Kandy it was 11.4° F. and 15.5° F. respectively. The absolute range for the year, *i.e.*, the difference between the highest and the lowest readings actually recorded at any one station, was greatest at Nuwara Eliya, 45.8° F., and lowest at Galle, 21.1° F.

Returns.—Meteorological returns for the towns of Colombo and Nuwara Eliya are given below :—

Colombo.													
Month.	Temperature.					Rainfall.			Winds.				
	Mean Solar Maximum.	Mean Minimum on Grass.	Mean Shade Maximum.	Mean Shade Minimum.	Mean Temperature.	Amount in Inches.	Degree of Humidity. Means of		General Directions.		Average Daily Mileage.		
							9.30 A.M. and 3.30 P.M.	Maxi-mum and Mini-mum.					
							°/.	°/.	A.M.	P.M.			
1930.	°	°	°	°	°	"	°/.	°/.					
January	.. 152.3	.. 67.9	.. 86.5	.. 71.6	.. 79.0	.. 5.75	.. 69	.. 76	.. NE	.. Var.	.. 114		
February	.. 152.4	.. 68.8	.. 87.6	.. 72.3	.. 80.0	.. 1.97	.. 68	.. 76	.. ENE	.. W	.. 124		
March	.. 150.5	.. 71.2	.. 88.8	.. 74.1	.. 81.4	.. 2.67	.. 68	.. 78	.. Var	.. W	.. 104		
April	.. 151.7	.. 74.0	.. 88.8	.. 75.6	.. 82.2	.. 13.52	.. 72	.. 80	.. Var	.. WSW	.. 107		
May	.. 147.6	.. 75.2	.. 86.2	.. 77.1	.. 81.6	.. 26.24	.. 80	.. 82	.. SW	.. SW	.. 156		
June	.. 142.2	.. 74.0	.. 84.9	.. 75.7	.. 80.3	.. 13.34	.. 82	.. 82	.. SW	.. SW	.. 131		
July	.. 146.4	.. 74.6	.. 84.9	.. 77.9	.. 81.4	.. 1.12	.. 76	.. 80	.. WSW	.. WSW	.. 172		
August	.. 150.7	.. 73.1	.. 85.3	.. 76.0	.. 80.6	.. 1.93	.. 76	.. 80	.. SW	.. SW	.. 148		
September	.. 149.6	.. 73.7	.. 84.8	.. 76.2	.. 80.5	.. 6.59	.. 78	.. 82	.. SW	.. WSW	.. 162		
October	.. 103.3	.. 72.4	.. 84.4	.. 73.9	.. 79.2	.. 33.38	.. 82	.. 85	.. Var	.. SW	.. 111		
November	.. 137.1	.. 72.5	.. 85.5	.. 74.4	.. 80.0	.. 9.73	.. 77	.. 82	.. Var	.. WNW	.. 108		
December	.. 130.2	.. 68.6	.. 86.8	.. 72.5	.. 79.6	.. 0.27	.. 70	.. 76	.. NE	.. Var.	.. 143		
Mean	.. 147.0	.. 72.2	.. 86.2	.. 74.8	.. 80.5	.. 116.51	.. 75	.. 80			.. 132		

Nuwara Eliya.													
Month.	Temperature.					Rainfall.			Degree of Humidity. Means of				
	Mean Solar Maximum.	Mean Minimum on Grass.	Mean Shade Maximum.	Mean Shade Minimum.	Mean Temperature.	Amount in Inches.	9.30 A.M. and 3.30 P.M.		Maximum and Mini-mum.				
							°	%		%			
January	.. —	.. 41.4	.. 69.1	.. 44.6	.. 56.8	.. 6.95	.. 67	.. 80					
February	.. —	.. 40.2	.. 70.5	.. 43.6	.. 57.0	.. 1.37	.. 64	.. 78					
March	.. —	.. 42.7	.. 71.4	.. 46.4	.. 58.9	.. 2.25	.. 64	.. 76					
April	.. —	.. 45.0	.. 71.4	.. 48.3	.. 59.8	.. 3.62	.. 74	.. 82					
May	.. —	.. 50.2	.. 69.2	.. 52.6	.. 60.9	.. 18.32	.. 80	.. 84					
June	.. —	.. 53.0	.. 66.5	.. 55.2	.. 60.8	.. 10.92	.. 84	.. 86					
July	.. —	.. 51.6	.. 67.8	.. 54.3	.. 61.0	.. 5.63	.. 74	.. 82					
August	.. —	.. 50.9	.. 67.5	.. 53.9	.. 60.7	.. 7.63	.. 80	.. 84					
September	.. —	.. 50.1	.. 66.4	.. 53.1	.. 59.8	.. 8.80	.. 82	.. 83					
October	.. —	.. 51.2	.. 67.1	.. 52.5	.. 59.8	.. 18.64	.. 86	.. 89					
November	.. —	.. 50.2	.. 69.2	.. 52.2	.. 60.7	.. 6.23	.. 82	.. 84					
December	.. —	.. 42.5	.. 70.1	.. 44.6	.. 57.4	.. 1.82	.. 68	.. 78					
Mean	.. —	.. 47.4	.. 68.9	.. 50.1	.. 59.5	.. 92.18	.. 75	.. 82					

IX.—SCIENTIFIC.

(1) *Bacteriological Institute.*

The examinations carried out at the Bacteriological Institute for the year were—

Nature of Specimens.	Official.	Private.	Total.	Positive.	Negative.
Blood for examination for typhoid ..	2,999	28	3,027	972	2,055
Blood for examination for paratyphoid A ..	1,724	17	1,741	8	1,733
Blood for examination for paratyphoid B ..	1,723	16	1,739	—	1,739
Blood for examination for Wassermann test	3,116	170	3,286	—	—
Blood for examination for malarial parasites	41	28	69	7	62
Human material for <i>B. pestis</i> ..	34	—	34	14	20
Rats for examination for <i>B. pestis</i> ..	1,914	168	2,082	—	2,082
Sputa for tubercle bacilli ..	270	24	294	56	238
Sputa for pneumococci ..	2	—	2	2	—
Urine for bacteriological examination ..	128	3	131	—	—
Urine for chemical examination ..	42	21	63	—	—
Secretions for gonococci ..	119	7	126	25	101
Secretions for diphtheria bacilli ..	114	27	141	32	109
Fæces for dysentery ..	522	58	580	—	—
Fæces for ova of intestinal parasites ..	9	9	18	4	14
Secretions for <i>B. leprae</i> ..	1,098	—	1,098	98	1,000
Evacuations for cholera vibrio ..	11	—	11	—	11
Scrapings for spirochaetes ..	7	5	12	2	10
Fæces and urine for <i>B. typhosus</i> ..	42	—	42	8	34
Miscellaneous specimens ..	228	19	247	—	—
Water for bacteriological examination ..	50	11	61	—	—
Total ..	14,193	611	14,804		

The doses of vaccines prepared and issued were—

Nature of Vaccine.	Official.	Private.	Total.
Autogenous vaccines ..	130	13	143
T. A. B. vaccines (doses) ..	14,110	205	14,315
Gonococcal vaccines (doses) ..	2,183	10	2,193
Staphylococcal vaccines (doses) ..	228	—	228
Streptococcal vaccines (doses) ..	36	—	36
Tuberculin vaccines (doses) ..	8	—	8
Total ..	16,695	228	16,923

The number of specimens which were examined for *E. histolytica* and *B. dysenteriae* from the General Hospital, Welikada Jail, and the Lunatic Asylum was 450. Blood and mucus were present in 348 specimens, and mucus only in 74.

E. histolytica or its cysts was present in 54 specimens, and *B. dysenteriae* (Flexner group) was present in 99 specimens. (Flagellates in large numbers were present in 36 specimens.)

Thus no definite cause of the “dysentery” was ascertained in more than half the specimens.

Some of these specimens were received many hours after they had been passed.

There are so many causes of dysenteric symptoms that thorough investigations can be made only by close co-operation between the clinician and laboratory worker.

It is probable that *B. dysenteriae* was missed in these specimens far more often than *E. histolytica*. Probably many specimens were received from patients in whom the original causal organism had died out though ulceration of the bowel was still present.

Chronic dysentery due to *B. dysenteriae* is much more common in Ceylon than amoebic dysentery.

(2) *Pasteur Institute.*

The number of persons who received preventive inoculation against rabies and treatment of the bite was 1,037; this is a decrease of 442 on the number for 1929.

The number of dogs' or other brains examined during the year was 300; this is a decrease of 137 on the number for 1929.

Tab'e I. gives the provinces from which the persons came who received treatment:—

Table I.				
Western Province	..	..	..	439
Southern Province	..	..	..	203
Central Province	..	..	..	181
Uva Province	..	..	..	90
Northern Province	..	..	..	52
Sabaragamuwa Province	..	..	..	41
North-Western Province	..	..	..	29
Eastern Province	..	..	..	1
North-Central Province	..	..	..	1
Total ..				1,037

Table II. gives the provinces from which the dogs' heads were received:—

Table II.									
Province.		Positive.		Negative.		Unfit.		Total.	
Western	61	..	31	..	5	..	97
Central	31	..	46	..	12	..	89
Southern	26	..	8	..	9	..	43
North-Western	8	..	4	..	6	..	18
Uva	14	..	8	..	3	..	25
Sabaragamuwa	8	..	9	..	5	..	22
Northern	2	..	2	..	2	..	6
Total	150	..	108	..	42	..	300

The statistics of failures of the preventive inoculation against rabies for 1929 are now complete, they are as follows:—

Number of persons treated	..	..	1,479
Number of fatal cases	..	..	7
Percentage of failures	..	..	·47

There is a common belief that much of the rabies in Ceylon is due to jackals, but although these animals are occasionally infected the maintenance of rabies in Ceylon is due entirely to the large population of pariah dogs.

Presumably the density of the dog population varies proportionately with the density of the human population. The density of the population is much lower in the Eastern Province and the North-Central Province than in any other Ceylon provinces; and although jackals are notoriously common in these two provinces rabies is a rarity.

Table III. gives the figures of the density of the population of the various provinces, and the proportion of the population per person (for 5,397 consecutive persons) attending the Pasteur Institute for preventive treatment:—

Table III.										
Province.		Area. Square Miles.		Population.		Density per Square Mile.		Preventive Inoculations.		Proportion of Population per Patient treated.
Western	1,423	..	1,246,800	..	870	..	3,100	402
Central	2,287	..	717,700	..	310	..	939	770
Southern	2,146	..	671,200	..	310	..	424	1,483
Sabaragamuwa	1,892	..	471,800	..	249	..	378	1,248
North-Western	3,016	..	492,200	..	160	..	142	3,466
Uva	3,271	..	233,900	..	71	..	83	2,698
Northern	3,429	..	374,800	..	109	..	320	1,171
Eastern	3,848	..	192,800	..	50	..	2	96,400
North-Central	4,008	..	96,500	..	24	..	9	10,732

(3) *Outstation Laboratories.*

The following table gives the number of examinations reported from the laboratories attached to outstation hospitals:—

Table IV.

Name of Institution.	Urine.	Faeces Positive for Hook- worm.	Faeces Negative for Hook- worm.	Blood Positive for Malaria.	Blood Negative for Malaria.	Other Exami- nations.	Total.
Anuradhapura	.. 2,656	.. 2,287	.. 303	.. 294	.. 282	.. 305	.. 6,127
Batticaloa	.. 1,714	.. 995	.. 478	.. 14	.. 6	.. 128	.. 3,335
Badulla ..	.. 2,999	.. 2,037	.. 857	.. 39	.. 181	.. 274	.. 6,387
Chilaw ..	.. 1,426	.. 963	.. 270	.. 129	.. 163	.. 163	.. 3,114
Galle ..	.. 4,645	.. 3,126	.. 452	.. 3	.. 45	.. 820	.. 9,091
Jaffna ..	.. 3,080	.. 2,216	.. 570	.. 185	.. 271	.. 600	.. 6,922
Kandy ..	.. 3,279	.. 1,074	.. 293	.. 482	.. 1,029	.. 1,631	.. 7,788
Kurunegala	.. 4,490	.. 3,686	.. 765	.. 418	.. 414	.. 158	.. 9,931
Ratnapura	.. 2,219	.. 1,683	.. 374	.. 121	.. 98	.. 247	.. 4,742
Victoria Memorial Hospital	Eye .. 1,323	.. 5	.. 2	.. —	.. —	.. 1,628	.. 2,958
Lying-in Home	.. 2,931	.. 1,624	.. 337	.. 16	.. 46	.. 124	.. 5,078
Mandapam Camp	.. 276	.. 102	.. 126	.. —	.. 3	.. 5,521	.. 6,028

A good piece of work was done by Mr. K. M. M. Michael of Mandapam Camp laboratory.

He examined the stools of 2,687 quarantined coolies for *Vibrio cholerae*.

The majority of the specimens were mixed in batches of ten (occasionally less) to save time and laboratory material.

He has reported the results as follows:—

Number of specimens examined	..	..	.. 2,687
Batches of mixed specimens (10 or less)	..	..	.. 203
Batches of mixed specimens plus for <i>V. cholerae</i>	..	..	.. 1
Batches of mixed specimens plus for vibrios not agglutinating with standard <i>V. cholerae</i> serum	..	..	.. 144
Batches of mixed specimens negative for vibrios	..	..	.. 58
Single specimens	..	..	.. 885
Single specimens positive for <i>V. cholerae</i>	..	..	.. —
Single specimens positive for vibrios not agglutinating with standard <i>V. cholerae</i> serum	..	..	.. 114
Single specimens negative for vibrios	..	..	.. 771

A culture of the *V. cholerae* isolated was forwarded to the Bacteriological Institute and it was confirmed as true *V. cholerae*.

The number of non-agglutinating vibrios isolated was about one in eight, which is much in excess of the experiences of this laboratory except during outbreaks of cholera, when contacts are often found to be harbouring “non-agglutinating” vibrios.

(4) *Government Vaccine Establishment.*

The number of calves received on hire from the contractor amounted to 475. During the 12 months 475 calves were used for vaccination and of these 471 were returned to the contractor. As in previous years, considerable difficulty was experienced in obtaining calves of a quality suitable for vaccination.

Seed lymph for the vaccination of calves was obtained at intervals from the Lister Institute of Preventive Medicine, London. A certain amount was also prepared in this Establishment.

The glycerinated calf lymph was issued to vaccinators in sealed glass capillary tubes. Lymph was also issued in collapsible metal tubes to those stations where a large number of vaccinations are carried out daily.

The total number of tubes of calf lymph issued during the year amounted to 170,930, which is sufficient for the vaccination of approximately 512,970 persons. Of this number of tubes 1,720 were sold, realizing a sum of Rs. 1,499.50; 52,950 were issued to Mandapam Camp, and 19,600 to Tataparai Camp, Tuticorin. A large quantity of lymph was also stored in bulk in reserve supply.

The weekly returns of Vaccinators received at this office show that a successful case percentage of 98.3 (primary vaccinations) was obtained with the lymph issued during the year.

(5) Publications.

The following papers were published during the year:—

Nichols, L.: “ Melioidosis with special reference to the Dissociation of *Bacillus whitmori* ”—British Journal of Experimental Pathology, December, 1930.

Carter, H. F. : Observations on Epidemic Malaria in the South-Western Low-lands of Ceylon—Ceylon Journal of Science, 1930, Vol. II., 177.

Carter, H. F.: Further observations on the Transmission of Malaria by Anopheline Mosquito in Ceylon—Ceylon Journal of Science, 1930, Vol. II., 159.

X.—MISCELLANEOUS.

(1) Medical Education.

The following extracts from the report of the Registrar of the Ceylon Medical College for the year 1930 are given below:—

During the year 1930 the work of the Medical College was continued with the lack of remarkable incident which should be associated with a well organized department. The new building, for the accommodation of the College Office, Physiology Department, and Students' Library and Common Room was finished and is now in full use to the great advantage of both teaching and administration. The filing system advocated by the Director of Statistics has been adopted, resulting in saving of time and trouble in the new office. The new building was formally opened by His Excellency Sir Hebert Stanley, K.C.M.G., on October 1, with appropriate ceremonial. A scientific exhibition was arranged for the occasion in which most of the medical and scientific departments took part and a large and representative company assembled for the occasion.

Owing to the resignation of Professor Gordon Smith early in January the appointment of a new Professor of Anatomy has been necessary. His successor, Professor W. C. O. Hill, M.D., late lecturer in Anatomy, University of Birmingham, took up duties in the middle of April and has already made his mark on the work of the Anatomy Department. The improvement of the equipment of the Physiology Department, the provision of a universal projector for the lecture hall, an electrocardiograph, and the other up-to-date apparatus have much increased the interest and value of the lectures and the scope of work possible, while the provision of a well equipped workshop with a skilled mechanic in charge enables the repair of apparatus and the carrying out of minor structural alterations to be done quickly and cheaply, these jobs having previously to be given to outside agents at considerably greater cost both of time and money.

On January 1 there were 115 Medical Students on the College books ; during the year there were 46 entries of new students and 8 qualified L.M.S. On December 31 153 students were on the books.

On January 1 there were 64 Apothecary Students on the books. 24 new students were admitted and 31 qualified as Apothecaries during the year. On December 31 there were 54 Apothecary Students in the College.

Total number of students 207.

The total amount of fees collected from students and paid to revenue was Rs. 52,643.50 and the total expenditure Rs. 133,828.55, including Rs. 31,320.62 special non-recurring expenditure.

Results of Examinations—Medical.																				
		1929. December.		1930. March.		1930. July.		1930. September.		Total.										
		Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.			
Pre-medical (Chemistry, Physics, Botany, and Zoology)	..	—	..	—	..	75	..	30	..	—	..	—	..	43	..	16	..	118	..	46
1st Professional (Anatomy and Physiology)	..	—	..	—	..	17	..	9	..	20	..	10	..	—	..	—	..	37	..	19
2nd Professional: Parts I. and II.	..	—	..	—	..	20	..	16	..	12	..	11	..	—	..	—	..	32	..	27
Final	..	13	..	5	..	12	..	2	..	11	..	5	..	—	..	—	..	36	..	12
														223		104				

Results of Examinations—Apothecaries.																					
		1929.						1930.						Total.							
		December.						March.								July.					
		Sat.		Passed.		Sat.		Passed.		Sat.		Passed.		Sat.		Passed.		Sat.		Passed.	
1st Apothecaries	—	..	—	..	6	..	5	..	26	..	11	..	32	..	16	..	32	..	16
2nd Apothecaries	17	..	10	..	17	..	12	..	25	..	16	..	59	..	38	..	59	..	38
																91		54			

The pre-medical subjects—chemistry, physics, botany, and zoology—are taught at the University College. The five years' course given in the Ceylon Medical College for the diploma of L.M.S (Ceylon) follows the requirements of the General Medical Council and the qualification itself is registrable in and entitles its holder to practise in Great Britain.

The Medical College has excellent facilities for teaching Anatomy and Physiology to 1st and 2nd year students. The buildings of the Anatomy School were opened in 1913, and the new Physiology block, in addition to an extremely well designed and equipped lecture theatre with accommodation for 120 students, and the three spacious laboratories for histology, bio-chemistry, and experimental physiology, has demonstration and small class rooms and ample special accommodation for original work.

The facilities for teaching 3rd year students Pathology and Bacteriology are deplorable. The College has no pathology museum or laboratory and instruction in pathology has therefore to be given in the clinical laboratory of the General Hospital where the accommodation is quite inadequate. Bacteriology is taught at the Bacteriological Institute, a small and already overcrowded building, where there is neither the accommodation nor the equipment necessary for teaching and where classes must be limited to six students at a time.

Clinical instruction is given in the General Hospital and the special hospitals in and around Colombo which provide ample clinical material and possess highly qualified and experienced staffs.

The annual budget of the Medical College has for several years averaged only Rs. 100,000 (half of which amount is repaid to Government in students' fees) and it is difficult, if not impossible, to conduct efficiently a medical school with more than 200 students on such limited funds. The College offers no post-graduate courses of instruction.

(2) *King Edward VII. (Memorial) Anti-Tuberculosis Fund.*

The Anti-Tuberculosis Institute in Colombo and the Kandana Sanatorium had already been built and equipped from the Fund and at the end of the year the construction of the King Edward VII. Sanatorium at Kankasanturai in the Northern Province was completed. This new sanatorium will take 12 paying and 32 non-paying patients and will be opened by Government as soon as funds permit. The anticipated final cost of the building is Rs. 102,575.

There is also a proposal to build from the Fund a children's ward at Kandana, since such a ward would be of great value for the treatment of children with signs of early tuberculosis. When this proposal is carried out, the whole of the Fund will then be expended.

The balance to the credit of the Fund on December 31, 1930, stood at Rs. 30,062.96. Of this, only a sum of Rs. 19,987 will be left when the following commitments have been met:—

	Rs.
Sum yet to be remitted to Director of Public Works on account of the Kankasanturai Sanatorium	4,575
Equipment and fittings for Kankasanturai Sanatorium	5,500

It is anticipated that this sum will be sufficient to meet the cost of the proposed children's ward referred to above. The Sub-Committee will, therefore, shortly consider the question of closing the Fund, and formally handing over any remaining assets to the Medical Department.

(3) *Civil Medical Stores.*

Work has proceeded very satisfactorily during the year.

Issues.—The number of requisitions received during the financial year were—

Civil—Drugs, 3,198; Sera, 727; Provisions, 283; Quinine, 2,450, Instruments, 1,571.

Stationery—Half-yearly, 1,273; Intermediate, 2,490.

Estate—Drugs, 3,374; Stationery, 1,166.

Total—16,532.

During the financial year Rs. 628,748.90 were expended on instruments and drugs; Rs. 348,154.99 on quinine; Rs. 11,972.78 on quinine tablets; Rs. 172,423.58 on opium and its preparations. The amount of quinine issued during the

calendar year was 14,725 lb. The number of quinine tablets issued during the calendar year was 2,388,775. Drugs were issued on grants to estates to the value of Rs. 285,703.87; and on payment to the value of Rs. 13,894.48.

Preparation Room.—The storage tanks for spirit were completed and 40,000 lb. of tinctures and other spirituous preparations were made at a cost of £1,070 that is to say, at £1,132 less than the imported cost. All these preparations were previously imported. Larger quantities of drugs were imported in bulk and bottled in this section, instead of following the practice of importing small size. The problem of the supply of bottles was solved by using beer bottles, which are obtainable locally in large quantities at a low cost.

Drug Sections.—The system of stock-accounting and issuing of drugs was thoroughly revised. The old system of Civil and Estate branches was discarded. The requisition form were revised to conform to the new conditions. An Apothecary was placed in charge of each section, and was made responsible for the correct accounting of the stocks. The new system was begun on October 1, 1930, and proved very successful, requisitions being complied with in record time.

Instrument Section.—Work was commenced on the standardization of the surgical instruments and equipment of hospitals and dispensaries and revised forms are now being prepared. This will simplify the accounting and transfer returns.

Dispatch Section.—Congestion still exists in this section, but steps have been taken to acquire land for an extension to the present buildings.

(4) *Sale of Opium to Registered Consumers and Vedaralas.*

One depôt was closed during 1930. There are now 51 depôts in existence. No new consumers were registered during the year.

The total number of registered consumers served from the depôts in the Island during the year was 5,244, as against 5,636 in the previous year and 6,061 in 1928.

4,797 consumers obtained eating opium and 447 obtained smoking opium, as against 5,181 and 455 respectively in 1929 and 5,552 and 509 respectively in 1928.

3,555 vedaralas purchased eating opium, as compared with 3,206 in 1929 and 3,101 in 1928.

2,266 pounds of eating opium and 265 pounds of smoking opium, which realized Rs. 238,058.37 and Rs. 37,078.16 respectively, were sold to consumers and vedaralas during the year, as compared with 2,605 pounds of eating and 301 pounds of smoking opium sold in 1929, which realized Rs. 273,639.16 and Rs. 42,174.18 respectively.

The total amount realized by the sale of eating and smoking opium was Rs. 275,136.53, as against Rs. 315,813.34 in 1929. The decrease in the sales is due to the 5 per cent. annual reduction in the opium allowed to consumers and to deaths among opium consumers.

The selling price of opium—eating opium $1\frac{1}{2}$ cents per grain and smoking opium 2 cents per grain—remained unchanged.

The above figures show clearly that the number of consumers and the quantity consumed are decreasing year by year, but there is an increase in the number of vedaralas to whom opium is issued for purely medical purposes and an increase in the amount of opium issued to them. A limit must be set to the amount of opium so issued, and the matter is being investigated.

(5) *Building Requirements.*

Of the various major building schemes, that for a new bacteriological laboratory continues to be the most urgent and is of vital importance for the proper functioning of the Department. The estimated cost is a little more than Rs. 200,000. The laboratory would form the first unit of an Institute of Medical Sciences

designed to embrace pathology, entomology, public health chemistry, helminthology, and protozoology, in addition to bacteriology, and providing facilities for undergraduate and post-graduate training and instruction, for original investigations into local medical problems as well as for the routine laboratory work of the Department.

Of almost equal importance is the building of the Nurses' Home for which the site has already been acquired adjacent to the General Hospital, Colombo. Until this Home is available it is impossible to undertake the training of pupil nurses at the General Hospital and the present very unsatisfactory conditions at the three smaller hospitals where nurses are now trained must continue. The estimated cost of the proposed Nurses' Home is Rs. 500,000.

Funds have been voted for and work should start at an early date on the construction of quarters for 24 nurses and 50 pupil midwives at the De Soysa Lying-in Home. The new building will cost about Rs. 200,000 and will be the first stage in the scheme of extension for this hospital.

The first new block of wards built as part of the reconstruction scheme for the General Hospital has been completed and opened, but there is little prospect of the remainder of the scheme being proceeded with in the near future.

No progress was made during the year with the scheme for providing a Leper Colony, but although the buildings of the old Leper Hospital at Hendala are unsatisfactory and overcrowded, the scheme for the new Colony is one which requires much consideration before it is started.

Throughout the Island numerous structural improvements and additions are required to departmental buildings. The nurses' quarters in particular are very unsatisfactory at most of the older hospitals.

(6) *General Remarks.*

It was not until the beginning of the new financial year—October, 1930—that the full significance of the economic depression which has settled on Ceylon was realized, and during the last three months of the calendar year the Department initiated a number of measures of retrenchment which will greatly reduce its expenditure. While the existing services which are rendered to the public will not be curtailed to any material extent, new developments during the year 1931 will not be possible. The very considerable savings that are being made have become possible only through the help of the Medical Officers and other responsible members of the Department. This help has been fully and loyally given although in most instances it has meant additional work and responsibility for the officers concerned. At the moment, the most serious effect of the depression is the virtual stoppage of the Department's extensive but necessary building programme.

As a measure of economy Government has asked that all Administration Reports should be considerably abbreviated. This report, therefore, is much shorter than those of previous years and certain of the usual tables have been omitted since they appear in the "Ceylon Blue Book."

The International Health Division of the Rockefeller Foundation which first extended its help to Ceylon in 1915 has continued to co-operate in numerous ways during the year. Mr. Brian R. Dyer, who three years ago undertook the formation of a Sanitary Engineering Division for the Department, left the Island in August, having built up during his stay a modern and very efficient Sanitary Engineering branch.

In September at the request of Government, the International Health Division arranged for Dr. W. P. Jacocks to return as Advisory Health Officer to Ceylon where, since 1917, he had already done much valuable work in connection with ankylostomiasis, malaria, and the organization of Health Units.

A grant of 2,000 dollars was made by the International Health Division towards a demonstration for sanitating a number of villages with bored-hole latrines. The object of the demonstration is to show that a cheap and sanitary type of latrine can be provided in Ceylon which will prevent soil pollution and consequent hookworm infestation. This work is now in progress.

The Superintendent of Health Education was awarded a fellowship to enable him to study the modern developments of his subject in England, Germany, the United States, Japan, and other countries.

The inadequate facilities which the Ceylon Medical College offers during the latter part of the medical curriculum and the absence of post-graduate instruction are matters which are receiving attention. The high qualifications obtained in England by Ceylon licentiates (*vide* Section L.) show that the College has excellent material in its students and it is hardly fair to them that many of the usual facilities of a modern Medical School are not available in their own country. The lack of thorough undergraduate training affects not only work in the Department but medical practice throughout the Island.

One of the greatest needs of the Department is a better trained and larger nursing service. Although there are nearly 11,000 hospital beds, the number of nurses (including 39 British Nursing Sisters and 117 Religious Sisters) was only 161. There are training schools at the Lady Havelock Hospital, Colombo, and at the Hospitals in Kandy and Galle, but these schools are comparatively small and cannot train enough pupils to maintain the number of Ceylonese nurses at full strength. The conditions under which the pupil nurses live are far from satisfactory and their training is poor since it is regarded as merely incidental to the routine work of the hospital. The solution lies in the formation of a nurses' training school at the General Hospital, Colombo, but although this scheme has been under consideration for many years it cannot be put into effect until a Nurses' Home is built. This is one of the most urgently needed items on the Department's building programme. The 6 Ceylonese nurses who proceeded to England for training in 1928 have made good progress and should be ready to return to Ceylon in 1932.

A keen interest in matters of health has been shown in various parts of the island. No less than fourteen Health Weeks were held during the year, their organization and arrangement being entirely the work of local committees. The Empire Challenge Shield has done much to stimulate these activities and the fact that for two years in succession it has been won by Ceylon is very creditable. The illustrated lectures, lantern and cinema shows given in connection with the Hookworm Campaign, the hygiene classes for school teachers arranged by the Department, and the propaganda of the Health Units are reaching great numbers of people, and during 1931 the new Division of Health Education should become usefully functioning section of the Department.

The Health Units are an adaptation of the public health organization of a city to the needs of rural and small urban communities and are the cheapest form of organized and efficient health work that can be provided. The ordinary Medical Officer of Health in the Island has an area of 500 to 1,000 square miles and a population of several hundred thousand persons to supervise, and is provided with a staff of 10 to 20 Sanitary Inspectors to help him. The areas are so large and the population so scattered that the only duties undertaken are the control of infectious disease, the supervision of scavenging and conservancy, the application of certain building regulations, the inspection and licensing of food-handling establishments, and domestic sanitation.

The Health Unit staff consists of a Medical Officer of Health, Sanitary Inspectors, Health Nurses, and Midwives. Each Unit deals with an area of 30 to 100 square miles and a population which is usually less than 80,000. In addition to the duties enumerated for the ordinary Medical Officer of Health, the Health Unit undertakes the medical inspection of schools and school children, maternity and child welfare, vaccination against smallpox, ankylostomiasis work, and health education. The oldest of the units has been established for only five years but the work is already giving useful results, the cost is low, and the services given to the population are now—after a period of suspicion and opposition—proving acceptable. In the Report of the Colonial Development Public Health Committee the Health Units of Ceylon are described as “valuable not only in the control of disease but in spreading the knowledge of hygiene and sanitation and in training the local population—men and women—to play their part in the promotion of public health.” It is the aim of the Department eventually to increase the units from their present number of 7 to 63, so that the whole Island will be covered by them.

A survey of leprosy in Ceylon is long overdue. It would be the first step towards the control and prevention of the disease by modern methods. At the present time facilities for treatment exist only in the two Leper Asylums, and there are many early cases whom treatment would benefit who conceal their disease for fear of compulsory isolation. But, before centres for voluntary treatment can be established or the scheme for a Leper Colony proceeded with, it is essential to determine the extent and distribution of the disease. Special training and experience are necessary for survey work and Medical Officers can without difficulty or great expense be sent for training to India.

R. BRIERCLIFFE,
Director of Medical and Sanitary Services.

Colombo. May 29, 1931.

Chart showing the General Systemic and Preventable Diseases treated at the Government Hospitals during the year 1930. Total Cases-208,464.

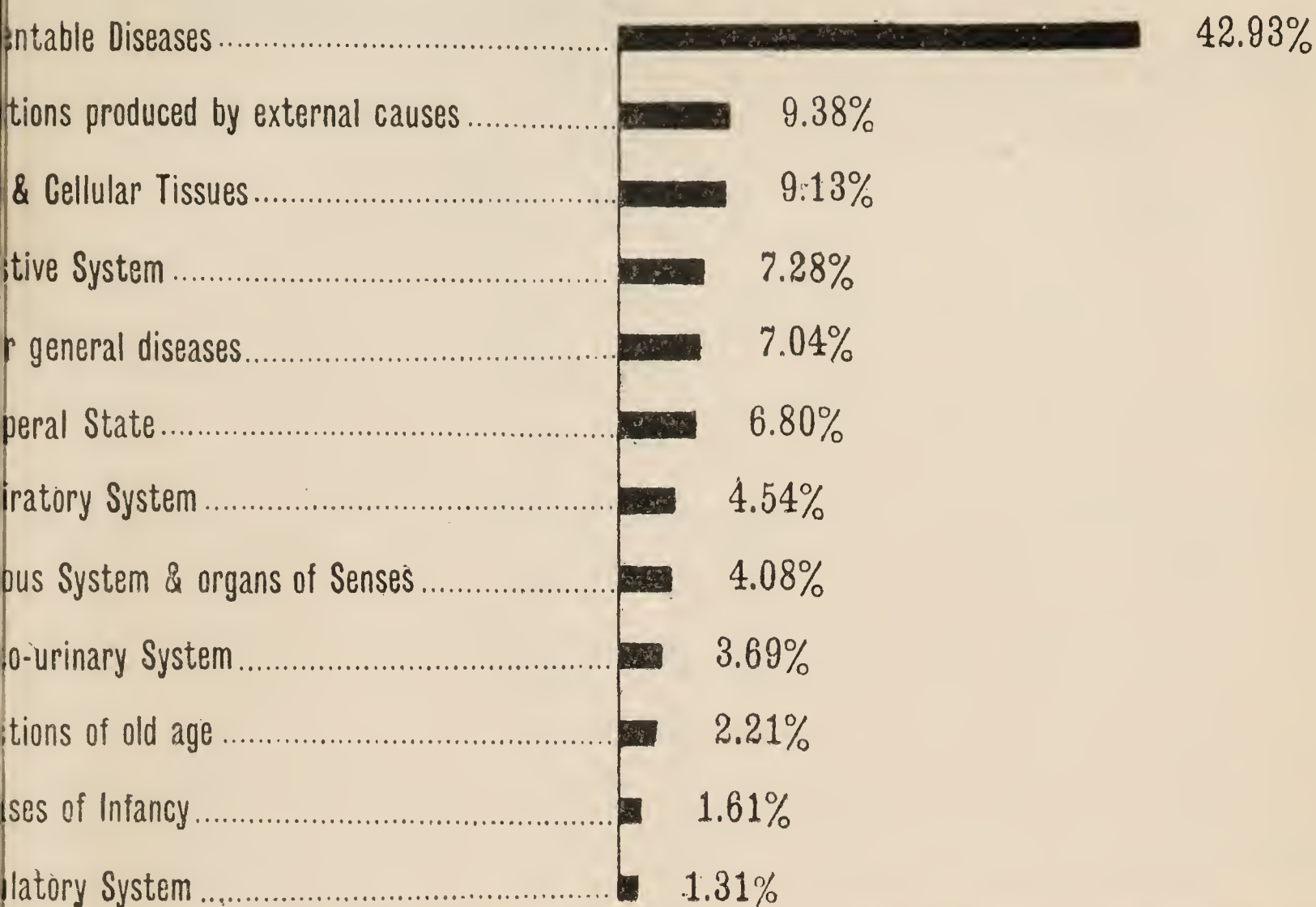
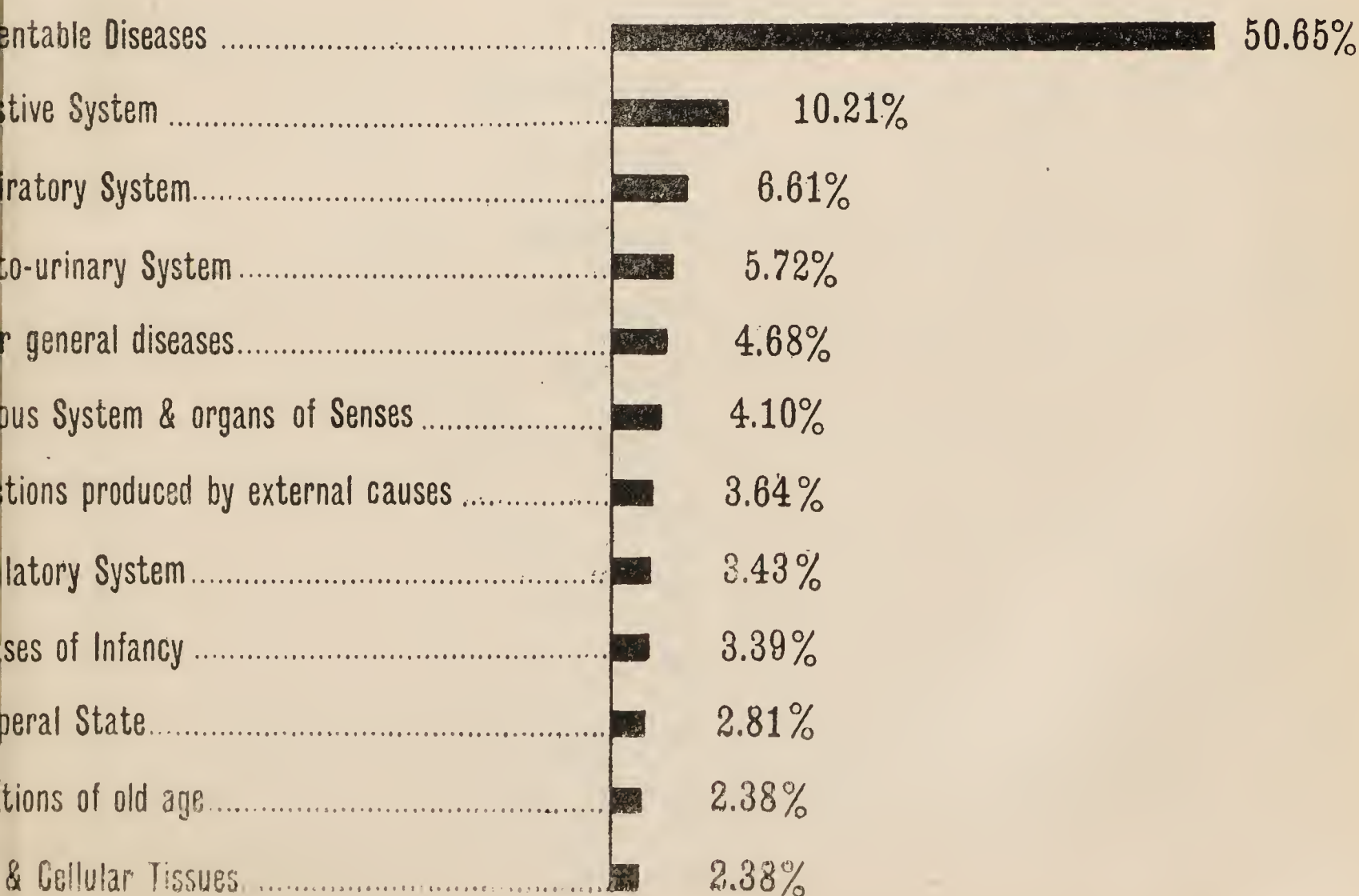
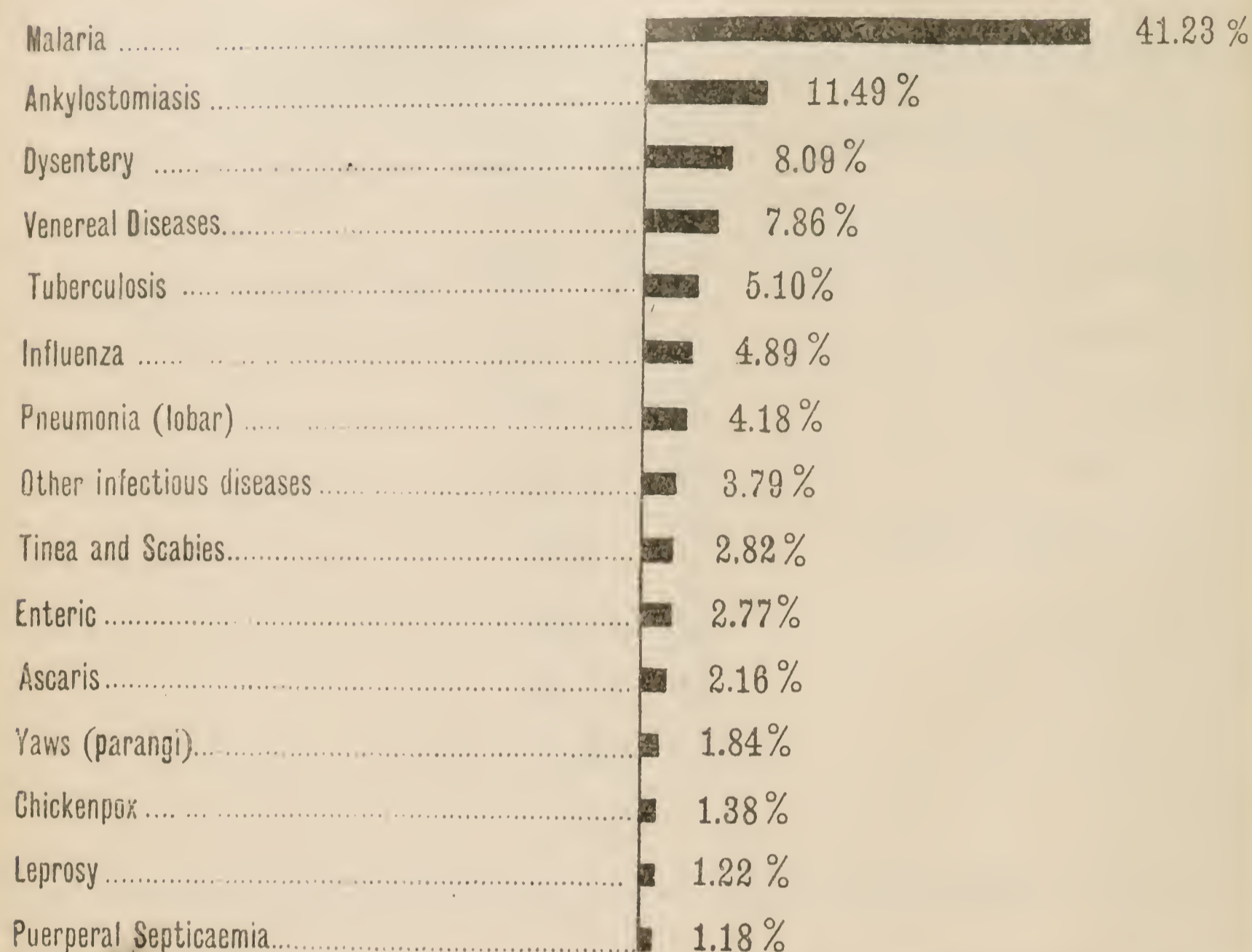


Chart showing deaths from General Systemic and Preventable Diseases treated at the Government Hospitals during the year 1930. Total Deaths-13,967.



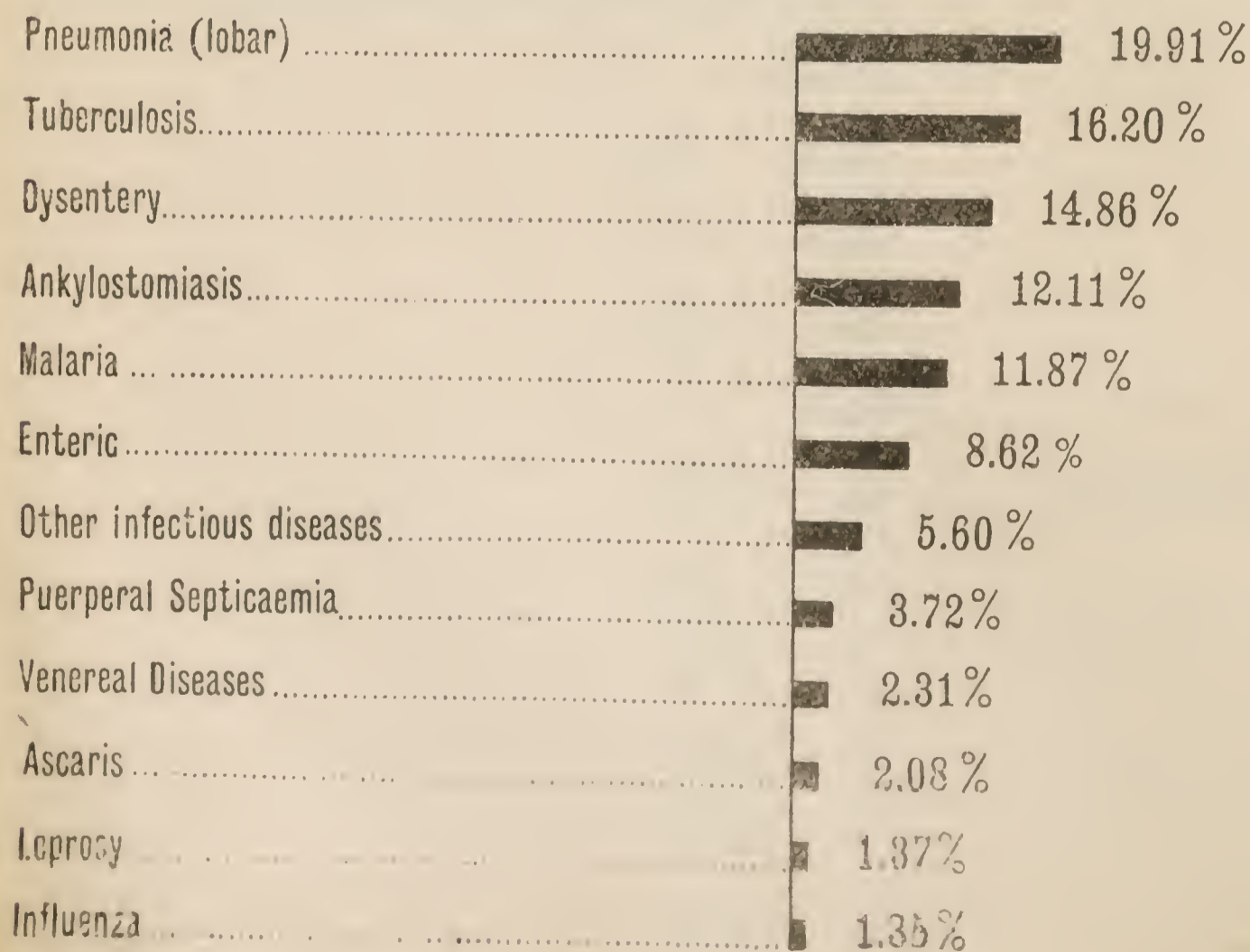
C.—Chart showing cases of Infectious Diseases treated at the Government Hospitals during the year 1930.

Total Cases-89,501.



D.—Chart showing deaths from Infectious Diseases treated at the Government Hospitals during the year 1930.

Total Deaths-7075.



I.—Hospital Returns.

Province and District.	No. of hospitals.	No. of beds.	No. of patients remaining in hospital at the beginning of the year 1930.	No. of patients admitted during the year 1930.	Daily average No. of patients in hospital during the year 1930.	Attendants.				Patients discharged.			No. of patients who died in 1930.	Average stay of patients who			Specify the longest period for which any one inmate has stayed.
						Nurses doing no other work.		Servants partially or not at all employed as nurses.		Cured.	Relieved.	Not improved.		Were discharged in 1930.	Were remaining in 1930.		
						Day nurses.	Night nurses.	Not nurses.	Partial day nurses.							Partial night nurses.	
Western Province.	18	3,007	2,740	48,782	2,846.58	174	36	454	218	84	28,686	12,130	2,419	4,357	23.76	39.93	1,462
Colombo	5	379	351	10,334	318.09	9	—	22	23	3	4903	4,445	294	813	10.81	9.30	112
Central Province.	13	1,019	932	22,924	892.54	66	16	78	31	19	9,708	10,633	1,163	1,687	11.00	17.17	365
Kandy	2	229	222	5,554	166.86	4	—	23	—	4	2,738	2,414	111	403	9.03	8.82	223
Matale	8	408	338	9,088	365.66	11	1	38	1	5	3,556	4,953	224	437	9.98	13.28	497
Nuwara Eliya																	
Southern Province.	6	492	441	13,030	404.69	26	3	61	4	3	4,264	6,770	545	811	13.16	22.65	215
Galle	2	144	100	3,842	114.94	5	—	13	—	3	1,952	1,582	43	281	10.28	8.76	146
Matara	3	101	118	2,955	99.96	1	—	22	3	1	674	1,877	86	221	10.34	13.89	117
Hambantota																	
Northern Province.	6	343	187	8,042	260.35	14	2	41	—	—	3,216	4,243	248	295	8.94	7.04	196
Jaffna	3	130	66	2,233	59.79	2	—	25	—	—	1,635	390	71	148	5.15	11.79	305
Mannar	2	90	55	1,231	34.07	—	—	6	10	—	717	449	32	66	7.01	9.18	89
Mullaitivu																	
Eastern Province.	5	351	263	3,287	268.11	17	2	19	—	3	2,289	8	22	156	480.14	110.61	3,321
Batticaloa	1	57	37	1,422	36.31	3	—	7	—	—	350	1,002	20	61	8.89	5.93	123
Trincomalee																	
North-Western Province.	5	422	372	11,496	379.26	10	2	45	8	2	2,956	7,207	429	935	10.09	11.91	167
Kurunegala	2	82	48	1,813	64.85	9	1	6	2	2	1,261	371	16	126	10.26	8.61	119
Puttalam	2	115	125	3,303	106.91	2	—	3	14	2	863	2,050	70	275	10.46	12.02	100
Chilaw																	
North-Central Province.	4	220	174	5,132	131.25	5	1	34	1	1	3,923	912	74	266	8.30	9.46	134
Anuradhapura																	
Province of Uva.	12	783	490	16,447	508.22	15	2	49	28	12	4,592	10,615	540	777	11.43	12.95	331
Badulla																	
Province of Sabaragamuwa.	7	524	463	14,404	455.07	12	1	59	—	—	8,291	4,416	676	1,080	10.17	10.44	483
Ratnapura	6	581	518	15,105	462.06	15	—	29	17	26	5,848	8,215	292	772	9.98	10.84	174
Kegalla																	
Total	112	9,477	8,040	200,424	7,975.57	400	67	1034	360	170	92,422	85,603	7,375	13,967	33.95	17.63	3,321

II.—Cases treated.

According to Diseases.

Diseases.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.					
Enteric Group—					
(a) Typhoid Fever ..	93	1,836	466	1,929	83
(b) Paratyphoid A. ..	—	118	49	118	—
(c) Paratyphoid B. ..	—	1	—	1	—
(d) Type not defined ..	35	395	86	430	14
Relapsing Fever ..	—	20	2	20	—
Undulant Fever ..	—	13	—	13	2
Malaria—					
(a) Tertian ..	902	26,786	328	27,688	402
(b) Quartan ..	81	3,300	84	3,381	70
(c) Aestivo-autumnal ..	4	1,318	11	1,322	12
(d) Cerebral Malaria ..	4	414	180	418	3
(e) Cachexia ..	124	3,968	238	4,092	46
(f) Remittent ..	—	—	—	—	—
Smallpox ..	1	52	5	53	—
Measles ..	4	90	1	94	2
Whooping Cough ..	6	122	3	128	5
Diphtheria ..	—	34	9	34	2
Influenza ..	187	4,187	96	4,374	56
Mumps ..	10	368	—	378	21
Cholera ..	—	—	—	—	—
Dysentery—					
(a) Amoebic ..	213	4,265	631	4,478	121
(b) Bacillary ..	53	1,376	223	1,429	46
(c) Undefined or due to other causes ..	41	1,294	198	1,335	46
Plague—					
(a) Bubonic ..	—	34	17	34	1
(b) Pneumonic ..	—	1	1	1	—
(c) Septicæmic ..	—	1	1	1	—
(d) Undefined ..	—	—	—	—	—
Leprosy ..	755	328	98	1,083	768
Erysipelas ..	5	225	20	230	5
Acute Poliomyelitis ..	2	7	3	9	—
Encephalitis Lethargica ..	—	—	—	—	—
Epidemic Cerebro-spinal Fever ..	—	—	—	—	—
Other Epidemic Diseases—					
(a) Rubcola (German Measles) ..	—	2	—	2	—
(b) Varicella (Chickenpox) ..	91	1,145	4	1,236	25
(c) Dengue ..	—	43	—	43	—
(d) Yaws ..	59	1,581	5	1,640	34
Rabies ..	—	36	21	36	—
Tetanus ..	40	307	119	347	8
Tuberculosis, Pulmonary and Laryngeal ..	643	3,342	1,056	3,985	562
Tuberculosis of the Meninges or Central Nervous System ..	—	5	5	5	—
Tuberculosis of the Intestines or Peritoneum ..	1	7	4	8	1
Tuberculosis of the Vertebral Column ..	—	4	1	4	—
Tuberculosis of Bones and Joints ..	1	15	2	16	1

II.—Cases treated—*contd.*

According to Diseases—*contd.*

Diseases.	Remaining in Hospital at end of 1929.		Admissions in 1930.		Deaths in 1930.		Total Cases treated in 1930.		Remaining in Hospital at end of 1930.	
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES— <i>contd.</i>										
Tuberculosis of other organs—										
(a) Skin or Subcutaneous Tissue (Lupus)	—	..	53	..	—	..	53	..	2
(b) Bones	—	..	1	..	—	..	1	..	—
(c) Lymphatic System	33	..	254	..	9	..	287	..	11
(d) Genito-urinary	—	..	—	..	—	..	—	..	—
(e) Other organs	—	..	38	..	4	..	38	..	2
Tuberculosis disseminated—										
(a) Acute	—	..	74	..	35	..	74	..	6
(b) Chronic	1	..	94	..	31	..	95	..	—
Syphilis—										
(a) Primary	57	..	1,248	..	22	..	1,305	..	42
(b) Secondary	37	..	762	..	10	..	799	..	23
(c) Tertiary	16	..	210	..	18	..	226	..	8
(d) Hereditary	7	..	175	..	58	..	182	..	8
(e) Period not indicated	2	..	64	..	—	..	66	..	3
Soft Chancre	2	..	39	..	—	..	41	..	3
A.—Gonorrhoea and its complications	..	148	..	3,602	..	36	..	3,750	..	99
B.—Gonorrhoeal Ophthalmia	—	..	49	..	12	..	49	..	—
C.—Gonorrhoeal Arthritis	19	..	595	..	7	..	614	..	16
D.—Granuloma Venereum	—	..	3	..	—	..	3	..	—
Septicaemia	1	..	181	..	75	..	182	..	2
Filarial Diseases	1	..	25	..	—	..	26	..	—
Acute Rheumatic Fever	19	..	260	..	15	..	279	..	8
Other Infectious Diseases	2	..	251	..	18	..	253	..	21
II.—GENERAL DISEASES NOT MENTIONED ABOVE.										
Cancer or other malignant Tumours of the Buccal Cavity	3	..	133	..	22	..	136	..	6
Cancer or other malignant Tumours of the Stomach or Liver	—	..	27	..	5	..	27	..	—
Cancer or other malignant Tumours of the Peritoneum. Intestines, Rectum	—	..	23	..	5	..	23	..	—
Cancer or other malignant Tumours of the Female Genital Organs	2	..	141	..	20	..	143	..	1
Cancer or other malignant Tumours of the Breast	—	..	47	..	8	..	47	..	1
Cancer or other malignant Tumours of the Skin	—	..	61	..	6	..	61	..	—
Cancer or other malignant Tumours of Organs not specified	30	..	352	..	41	..	382	..	13
Tumours non-malignant	16	..	439	..	11	..	455	..	30
Chronic Rheumatism	141	..	4,855	..	42	..	4,996	..	73
Scurvy (including Barlow's Disease)	..	33	..	3	..	—	..	36	..	—
Pellagra	—	..	—	..	—	..	—	..	—
Rickets	7	..	257	..	58	..	264	..	2
Diabetes (not including Insipidus) .	..	28	..	318	..	64	..	346	..	10
Beri-Beri	—	..	1	..	—	..	1	..	—
Anaemia—										
(a) Pernicious	2	..	127	..	11	..	129	..	2
(b) Other Anaemias and Chlorosis	..	36	..	1,251	..	58	..	1,287	..	18
Diseases of the Pituitary Body	1	..	2	..	2	..	3	..	—

II.—Cases treated—*contd.*
According to Diseases—*contd.*

Disease.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
II.—GENERAL DISEASES NOT MENTIONED ABOVE— <i>contd.</i>					
Diseases of the Thyroid Gland—					
(a) Exophthalmic Goitre ..	—	6	—	6	—
(b) Other diseases of the Thyroid Gland. Myxoedema ..	—	38	1	38	—
Diseases of the Para-Thyroid Glands ..	—	8	—	8	—
Diseases of the Supra-Renal Glands ..	—	—	—	—	—
Diseases of the Spleen ..	1	55	1	56	2
Leukaemia—					
(a) Leukaemia ..	5	112	9	117	4
(b) Hodgkin's Disease ..	—	1	—	1	—
Alcoholism ..	8	44	1	52	1
Corrosive Acids ..	—	30	14	30	1
Metallic Poisons ..	—	1	—	1	—
Vegetable Alkaloids ..	—	19	1	19	—
Ptomaine Poisoning ..	—	7	—	7	—
Other Acute Poisonings ..	—	116	4	116	2
Other General Diseases—					
Auto-intoxication ..	24	845	51	869	22
Purpura Haemorrhagica ..	—	2	1	2	—
Diabetes Insipidus ..	17	17	—	34	—
Undefined ..	21	1,361	38	1,382	24
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.					
Encephalitis (not including Encep- halitis Lethargica) ..	—	8	5	8	—
Meningitis (not including Tubercu- lous Meningitis or Cerebro-spinal Meningitis) ..	2	117	70	119	1
Locomotor Ataxia ..	1	12	2	13	—
Other affections of the Spinal Cord ..	1	134	15	135	5
Apoplexy—					
(a) Haemorrhage ..	1	72	34	73	—
(b) Embolism ..	—	16	9	16	1
(c) Thrombosis ..	8	57	15	65	—
Paralysis—					
(a) Hemiplegia ..	23	409	157	432	16
(b) Other Paralysis ..	18	299	36	317	15
General Paralysis of the Insane ..	—	6	—	6	—
Other forms of Mental Alienation ..	5	146	6	151	3
Epilepsy ..	14	317	24	331	7
Eclampsia, Convulsions (non-puer- peral) 5 years or over ..	—	82	17	82	—
Infantile Convulsions ..	—	314	123	314	2
Chorea ..	—	16	1	16	—
A.—Hysteria ..	7	257	1	264	2
B.—Neuritis ..	6	373	11	379	11
C.—Neurasthenia ..	4	224	10	228	1
Cerebral Softening ..	—	8	4	8	—
Other affections of the Nervous System, such as Paralysis Agitans ..	16	297	20	311	10
Affections of the Organs of Vision—					
(a) Diseases of the Eye ..	74	1,046	1	1,120	40
(b) Conjunctivitis ..	54	1,921	3	1,975	31
(c) Trachoma ..	21	413	—	434	20
(d) Tumours of the Eye ..	3	46	—	49	1
(e) Other affections of the Eye ..	68	1,057	6	1,125	54
Affections of the Ear or Mastoid Sinus ..	16	511	3	527	14

II.—Cases treated—*contd.*According to Diseases—*contd.*

Diseases.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
IV.—AFFECTIONS OF THE CIR- CULATORY SYSTEM.					
Pericarditis ..	4 ..	164 ..	50 ..	168 ..	6
Acute Endocarditis or Myocarditis ..	8 ..	149 ..	53 ..	157 ..	4
Angina Pectoris ..	1 ..	27 ..	6 ..	28 ..	—
Other Diseases of the Heart ..	— ..	25 ..	11 ..	25 ..	—
(a) Valvular—Mitral ..	20 ..	642 ..	159 ..	662 ..	16
Aortic ..	— ..	71 ..	9 ..	71 ..	1
Tricuspid ..	— ..	2 ..	— ..	2 ..	—
Pulmonary ..	— ..	25 ..	2 ..	25 ..	1
(b) Myocarditis ..	3 ..	84 ..	28 ..	87 ..	7
Diseases of the Arteries—					
(a) Aneurism ..	5 ..	134 ..	22 ..	139 ..	3
(b) Arterio-Sclerosis ..	— ..	53 ..	5 ..	53 ..	3
(c) Other diseases ..	1 ..	6 ..	1 ..	7 ..	—
Embolism or Thrombosis (non-cerebral)	4 ..	98 ..	16 ..	102 ..	2
Diseases of the Veins—					
Haemorrhoids ..	12 ..	427 ..	41 ..	439 ..	28
Varicose Veins ..	1 ..	119 ..	8 ..	120 ..	3
Phlebitis ..	3 ..	85 ..	9 ..	88 ..	3
Diseases of the Lymphatic System—					
Lymphangitis ..	4 ..	113 ..	3 ..	117 ..	1
Lymphadenitis, Bubo (non-specific)	3 ..	167 ..	3 ..	170 ..	7
Other ..	— ..	13 ..	— ..	13 ..	—
Haemorrhage of undetermined cause	— ..	19 ..	4 ..	19 ..	—
Other affections of the Circulatory System ..	32 ..	213 ..	48 ..	245 ..	4
V.—AFFECTIONS OF THE RES- PIRATORY SYSTEM.					
Diseases of the Nasal Passages—					
Adenoids ..	6 ..	89 ..	— ..	95 ..	4
Polypus ..	— ..	91 ..	9 ..	91 ..	—
Rhinitis ..	1 ..	44 ..	— ..	45 ..	1
Coryza ..	2 ..	101 ..	— ..	103 ..	3
Affections of the Larynx-Laryngitis					
	9 ..	211 ..	34 ..	220 ..	4
Bronchitis—(a) Acute ..	70 ..	2,449 ..	133 ..	2,519 ..	46
(b) Chronic ..	41 ..	1,992 ..	81 ..	2,033 ..	27
Broncho-Pneumonia ..	47 ..	1,591 ..	584 ..	1,638 ..	33
Pneumonia—(a) Lobar ..	117 ..	3,627 ..	1,409 ..	3,744 ..	89
(b) Unclassified ..	11 ..	199 ..	76 ..	210 ..	8
Pleurisy, Empyema ..	15 ..	616 ..	87 ..	631 ..	28
Congestion of the Lungs ..	— ..	8 ..	3 ..	8 ..	—
Gangrene of the Lungs ..	— ..	9 ..	— ..	9 ..	—
Asthma ..	55 ..	1,562 ..	50 ..	1,617 ..	20
Pulmonary Emphysema ..	— ..	51 ..	5 ..	51 ..	2
Pneumothorax ..	— ..	8 ..	3 ..	8 ..	—
Other affections of the Lungs—					
Pulmonary Spirochaetosis ..	6 ..	182 ..	27 ..	188 ..	3

II.—Cases treated—*contd.*

According to Diseases—*contd.*

Diseases.	Remaining in Hospital at the end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
VI.—DISEASES OF THE DIGESTIVE SYSTEM.					
A.—Diseases of Teeth or Gums—					
Caries, Pyorrhoea, &c. ..	8 ..	332 ..	1 ..	340 ..	4
B.—Other affections of the Mouth—					
Stomatitis ..	19 ..	343 ..	26 ..	362 ..	5
Glossitis. &c. ..	2 ..	37 ..	5 ..	39 ..	1
Affections of the Pharynx or Tonsils—					
Tonsilitis ..	22 ..	471 ..	5 ..	493 ..	6
Pharyngitis ..	1 ..	108 ..	4 ..	109 ..	—
Affections of the Oesophagus					
A.—Ulcer of the Stomach ..	— ..	17 ..	— ..	17 ..	—
B.—Ulcer of the Duodenum ..	2 ..	201 ..	3 ..	203 ..	4
Other affections of the Stomach—	1 ..	31 ..	2 ..	32 ..	—
Gastritis ..	9 ..	635 ..	31 ..	644 ..	11
Dyspepsia, &c. ..	26 ..	1,203 ..	19 ..	1,229 ..	14
Diarrhoea and Enteritis—					
Under two years ..	26 ..	527 ..	166 ..	553 ..	3
Diarrhoea and Enteritis—					
Two years and over ..	121 ..	4,116 ..	695 ..	4,237 ..	153
Colitis ..	20 ..	855 ..	153 ..	875 ..	30
Ulceration ..	1 ..	48 ..	4 ..	49 ..	1
Sprue ..	— ..	10 ..	1 ..	10 ..	1
Ankylostomiasis ..	400 ..	9,888 ..	857 ..	10,288 ..	321
Diseases due to Intestinal Parasites—					
(a) Cestoda (Taenia) ..	— ..	156 ..	8 ..	156 ..	2
(b) Nematoda (other than Ankylostoma)—					
Ascaris ..	57 ..	1,889 ..	148 ..	1,946 ..	29
Trichocephalus Dispar ..	— ..	2 ..	— ..	2 ..	—
Trichina ..	— ..	16 ..	— ..	16 ..	—
Dracunculus ..	— ..	3 ..	— ..	3 ..	—
Oxyuris ..	— ..	3 ..	— ..	3 ..	—
(c) Coccidia ..	— ..	2 ..	— ..	2 ..	—
(d) Other parasites ..	— ..	96 ..	— ..	96 ..	4
(e) Unclassified ..	— ..	1 ..	— ..	1 ..	—
Appendicitis ..	18 ..	443 ..	34 ..	461 ..	23
Hernia ..	12 ..	645 ..	47 ..	657 ..	33
A.—Affections of the Anus Fistula, &c. ..	2 ..	379 ..	15 ..	381 ..	7
B.—Other affections of the Intestines—					
Enteroptosis ..	1 ..	212 ..	26 ..	213 ..	3
Constipation ..	24 ..	2,332 ..	13 ..	2,356 ..	77
Hydatid of the Liver ..	— ..	2 ..	1 ..	2 ..	—
Cirrhosis of the Liver—					
(a) Alcoholic ..	11 ..	245 ..	58 ..	256 ..	17
(b) Other forms ..	3 ..	225 ..	74 ..	228 ..	4
Biliary Calculus ..	— ..	7 ..	— ..	7 ..	—

II.—Cases treated—*contd.*According to Diseases—*contd.*

Diseases.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
VI.—DISEASES OF THE DIGESTIVE SYSTEM— <i>contd.</i>					
Other affections of the Liver—					
Abscess	2	174	15	176	3
Hepatitis	2	401	23	403	9
Cholecystitis	1	5	—	6	—
Jaundice	4	123	21	127	5
Diseases of the Pancreas	—	2	—	2	—
Peritonitis (of unknown origin)	4	233	79	237	3
Other affections of the Digestive System	62	2,005	105	2,067	63
VII.—DISEASES OF THE GENITO- URINARY SYSTEM (non-venereal).					
Acute Nephritis	92	2,004	462	2,096	74
Chronic	32	895	201	927	29
A.—Chyluria	—	3	3	3	—
B.—Schistosomiasis	—	1	—	1	—
Other affections of the Kidneys, Pyelitis, &c.	5	337	28	342	6
Urinary Calculus	1	93	2	94	1
Diseases of the Bladder-Cystitis	4	363	16	367	1
Diseases of the Urethra—					
(a) Stricture	18	345	8	363	8
(b) Other	15	481	10	496	2
Diseases of the Prostate—					
Hypertrophy	—	51	2	51	2
Prostatitis	—	51	2	51	3
Diseases (non-venereal) of the Genital Organs of Man—					
Epididymitis	1	147	3	148	2
Orchitis	6	242	2	248	6
Hydrocele	18	266	222	284	16
Ulcer of Penis	5	185	2	190	4
Other	—	276	7	276	13
Cysts or other non-malignant Tu- mours of the Ovaries	6	108	7	114	7
Salpingitis—					
Abscess of the Pelvis	3	156	9	159	—
Uterine Tumours (non-malignant)	1	47	4	48	—
Uterine Haemorrhage (non-puer- peral)	1	82	3	83	—
A.—Metritis	2	87	—	89	3
B.—Other affections of the Female Genital Organs—					
Displacement of Uterus	11	427	2	438	17
Amenorrhoea	11	90	—	101	1
Dysmenorrhoea	1	142	—	143	3
Leucorrhoea	3	164	—	167	1
Other undefined	1	212	1	213	3
Diseases of the Breast (non-puerperal)—					
Mastitis	—	43	—	43	1
Abscess of Breast	11	171	3	182	9

II.—Cases treated—*contd.*According to Diseases—*contd.*

Diseases.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remaining in Hospital at end of 1930.
VIII.—PUERPERAL STATE.					
A.—Normal Labour ..	300	9,059	44	9,359	218
B.—Accidents of Pregnancy—					
(a) Abortion ..	13	506	11	519	7
(b) Ectopic Gestation ..	1	20	1	21	—
(c) Other accidents of Pregnancy	65	1,566	158	1,631	25
Puerperal Haemorrhage ..	—	70	11	70	6
Other accidents of Parturition ..	14	198	48	212	3
Puerperal Septicaemia ..	33	1,014	264	1,047	30
Phlegmasia Dolens ..	—	15	3	15	—
Puerperal Eclampsia ..	5	260	69	265	1
Sequelae of Labour ..	11	421	45	432	10
Puerperal affections of the Breast ..	4	80	2	84	1
Pregnancy (ante-natal) ..	33	1,540	—	1,573	27

IX.—AFFECTIONS OF THE SKIN AND
CELLULAR TISSUES.

Gangrene ..	56	986	80	1,042	34
Boil ..	—	14	—	14	8
Carbuncle ..	48	992	14	1,040	29
Abscess ..	43	1,607	30	1,650	65
Whitlow ..	51	1,207	13	1,258	34
Cellulitis ..	132	2,821	151	2,953	116
A.—Tinea ..	1	171	—	172	4
B.—Scabies ..	109	2,244	4	2,353	53

Other Diseases of the Skin—

Erythema ..	9	329	—	338	12
Urticaria ..	4	186	—	190	5
Eczema ..	63	1,599	6	1,662	38
Herpes ..	—	102	—	102	1
Psoriasis ..	3	151	5	154	8
Elephantiasis. ..	1	46	—	47	2
Myiasis ..	9	1	1	10	—
Chigoes ..	6	24	—	30	—
Cutaneous Leishmaniasis ..	107	2,375	7	2,482	76
Other undefined ..	199	6,250	26	6,449	196

X.—DISEASES OF BONES AND ORGANS
OF LOCOMOTION (OTHER THAN
TUBERCULOUS).

Diseases of Bones—Osteritis ..	4	75	2	79	3
Diseases of Joints—Arthritis ..	8	216	4	224	6
Synovitis ..	5	147	6	152	3
Other Diseases of Bones or Organs of Locomotion ..	5	210	16	215	11

XI.—MALFORMATIONS.

Malformations—Hydrocephalus ..	—	1	—	1	—
Hypospadias ..	—	—	—	—	—
Spina Bifida. &c... ..	—	78	4	78	—

XII.—DISEASES OF INFANCY.

Congenital Debility ..	37	2,199	241	2,236	34
Premature Birth ..	2	162	98	164	3
Other affections of Infancy ..	14	665	63	679	13
Infant neglect (infants of three months or over) ..	6	261	41	267	8

II.—Cases treated—*contd.*

According to Diseases—*contd.*

Diseases.	Remaining in Hospital at end of 1929.	Admissions in 1930.	Deaths in 1930.	Total Cases treated in 1930.	Remainin in Hospital at end of 1930.
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XIII.—AFFECTIONS OF OLD AGE.

Senility—Senile Dementia	..	160	..	4,442	..	333	..	4,602	..	81
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XIV.—AFFECTIONS PRODUCED BY
EXTERNAL CAUSES.

Suicide by Poisoning	..	—	..	10	..	6	..	10	..	—
Suicide by Poisoning (intentional)	..	—	..	2	..	1	..	2	..	—
Suicide by Poisoning (attempted)	..	—	..	3	..	—	..	3	..	—
Suicide by Poisoning—Botulism	..	—	..	57	..	6	..	57	..	—

 Injuries of Poisonous Animals—

Snake Bite	..	1	..	34	..	2	..	35	..	—
Insect Bite	..	—	..	30	..	—	..	30	..	—
Other accidental Poisonings	..	1	..	158	..	9	..	159	..	1
Burns (by Fire)	..	32	..	835	..	111	..	867	..	34
Burns (other than by Fire)	..	1	..	165	..	16	..	166	..	6
Suffocation (accidental)	..	—	..	1	..	—	..	1	..	—
Poisoning by Gas (accidental)	..	—	..	3	..	—	..	3	..	—
Drowning (accidental)	..	—	..	1	..	—	..	1	..	—
Wounds (by Firearms)	..	10	..	281	..	23	..	291	..	12
Wounds (by cutting or stabbing instruments)	..	105	..	3,506	..	46	..	3,611	..	107
Wounds (by Fall)	..	85	..	2,931	..	45	..	3,016	..	72
Wounds (in Mines or Quarries)	..	—	..	70	..	6	..	70	..	18
Wounds (by Machinery)	..	35	..	438	..	11	..	473	..	20
Wounds (crushing, <i>e.g.</i> , Railway accidents, &c.)	..	17	..	688	..	15	..	705	..	25
Injuries inflicted by Animals, Bites, Kicks, &c.	..	24	..	677	..	7	..	701	..	26
A.—Over fatigue	..	—	..	26	..	—	..	26	..	—
B.—Hunger or Thirst	..	3	..	53	..	19	..	56	..	—

Exposure to Heat—

Heatstroke	..	—	..	2	..	—	..	2	..	—
Sunstroke	..	—	..	6	..	—	..	6	..	—
Lightning Stroke	..	—	..	10	..	—	..	10	..	—
Electric Shock	..	—	..	11	..	—	..	11	..	—
Murder by Firearms	..	—	..	4	..	4	..	4	..	—
Murder by cutting or stabbing instruments	..	—	..	8	..	8	..	8	..	—
A.—Dislocation	..	5	..	181	..	—	..	186	..	4
B.—Sprain	..	4	..	274	..	—	..	278	..	3
C.—Fracture	..	91	..	2,098	..	125	..	2,189	..	99
Other external Injuries	..	155	..	6,406	..	43	..	6,561	..	136
Deaths by violence of unknown cause	..	—	..	6	..	5	..	6	..	—

XV.—ILL-DEFINED DISEASES.

A.—Diseases not already specified or ill-defined—

Ascites	..	7	..	215	..	26	..	222	..	9
Oedema	..	—	..	17	..	—	..	17	..	—
Asthenia	..	69	..	857	..	84	..	926	..	33
Shock	..	—	..	50	..	19	..	50	..	—
Hyperpyrexia	..	21	..	200	..	25	..	221	..	8
Other	..	32	..	1,492	..	53	..	1,524	..	167

J.—Malingering	..	15	..	159	..	—	..	174	..	6
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